

Desert

APRIL, 1953 35 Cents



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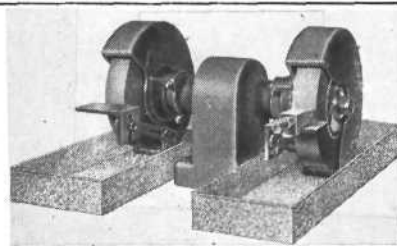
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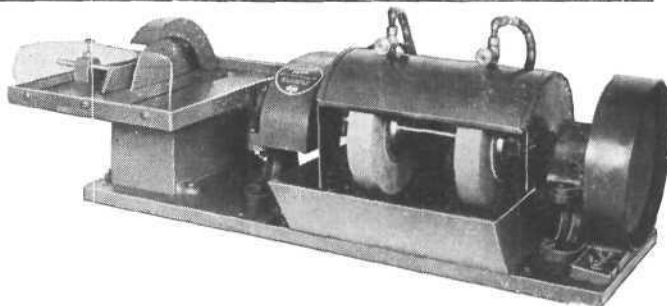
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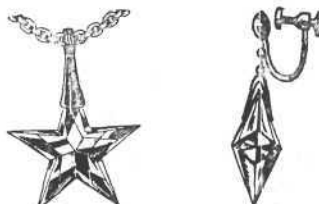
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DESERT CALENDAR

- April—Exhibit of paintings by Orpha Klinker of historical landmarks in California. Southwest Museum, Highland Park, Los Angeles, Calif.
- April 1-4—Final Easter ceremonies of Yaqui Indians, Pascua Village, near Tucson, Arizona.
- April 3—Passion play of Penitente Brotherhood, Rancho de Taos and St. Francis Mission, Taos, New Mexico.
- April 4 — All-day auto caravan to Pioneertown and Indian Cove in Joshua Tree National Monument. From Desert Museum, Palm Springs, California.
- April 5—Easter sunrise services on horseback. Wickenburg, Arizona.
- April 5 — Easter sunrise services, Grand Canyon, Arizona.
- April 5—Easter sunrise services at Desert Christ Monument, Yucca Valley, California.
- April 5 — Easter Sunrise Services, Yermo, California.
- April 5 — Rodeo, Rancho de Los Caballeros, Wickenburg, Arizona.
- April 6-10—Desert Caballeros Annual Ride, Wickenburg, Arizona.
- April 8-19—Tucson Festival, Tucson, Arizona.
- April 10-11—All-Indian Show, Arizona State College, Flagstaff.
- April 11-12 — Bandollero Tour to Rocky Point, Sonora, Mexico, from Yuma, Arizona.
- April 11-12—Annual De Anza Jeep Cavalcade, Hemet to Calexico, California.
- April 12 — Annual Chuck Wagon breakfast, to welcome De Anza jeep riders from Hemet, Calexico, California.
- April 12—Dons Club Trek to Boyce Thompson Aboretum, Superior, Arizona. From Phoenix.
- April 18-19—Annual Grubstake Days, Yucca Valley, California.
- April 18-19—Sierra Club, Southern California Chapter, exploratory hike up west fork of Palm Canyon, near Palm Springs, California.
- April 25 — All-day auto caravan through Joshua Tree National Monument. From Desert Museum, Palm Springs, California. Stops at Wonderland of Rocks, Salton View, Jumbled Rocks and Twentynine Palms Oasis.
- April 25-26 — Natural Science Section, Southern California Chapter Sierra Club trip to Joshua Tree National Monument, California. Overnight camp at Jumbled Rocks, hike to Stubby Springs.
- April 25-26 — Desert Peaks Section, Southern California Chapter Sierra Club climb of Telescope Peak, Death Valley, California.
- April 26 — Annual Spring Festival and wildflower show, Hi Vista, near Lancaster, California.



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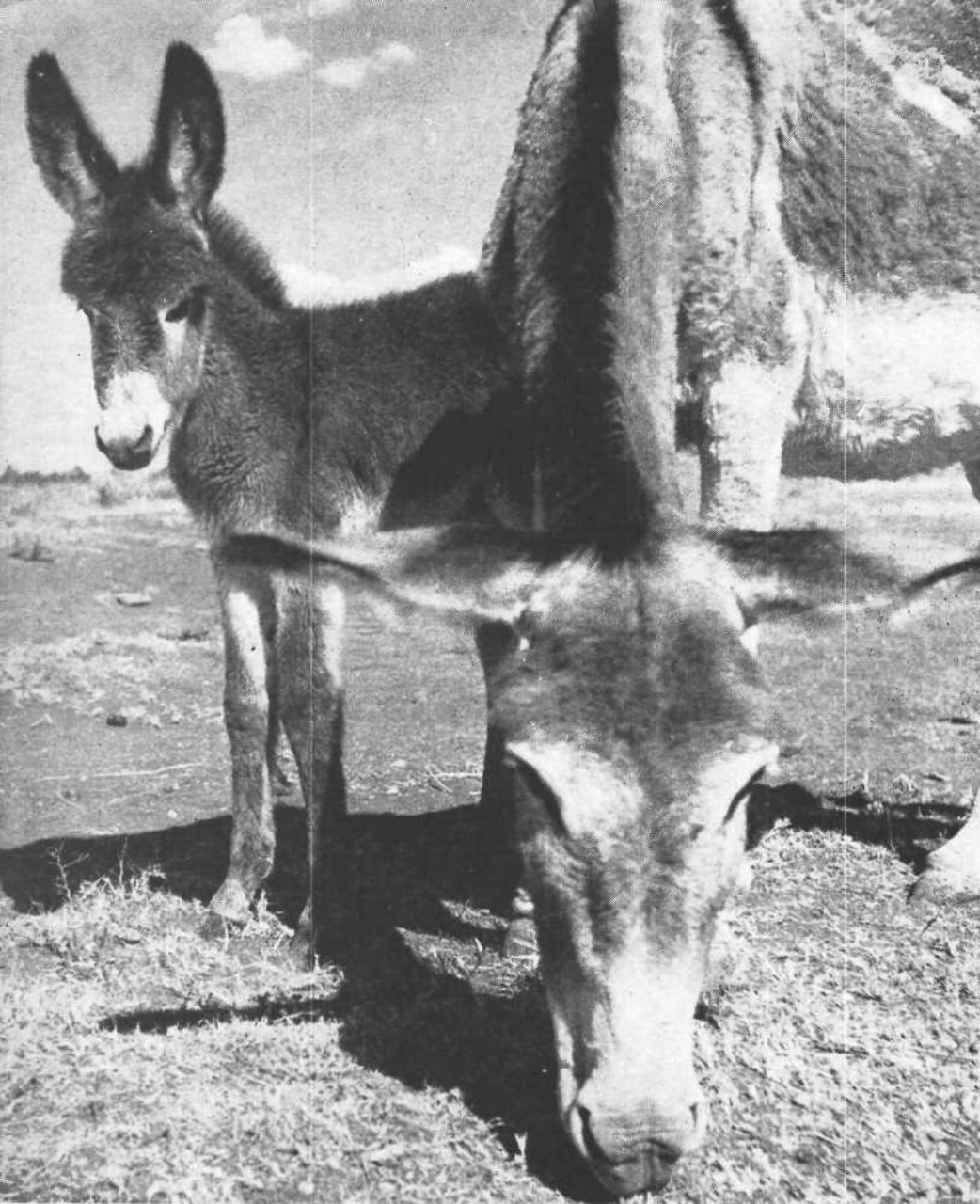
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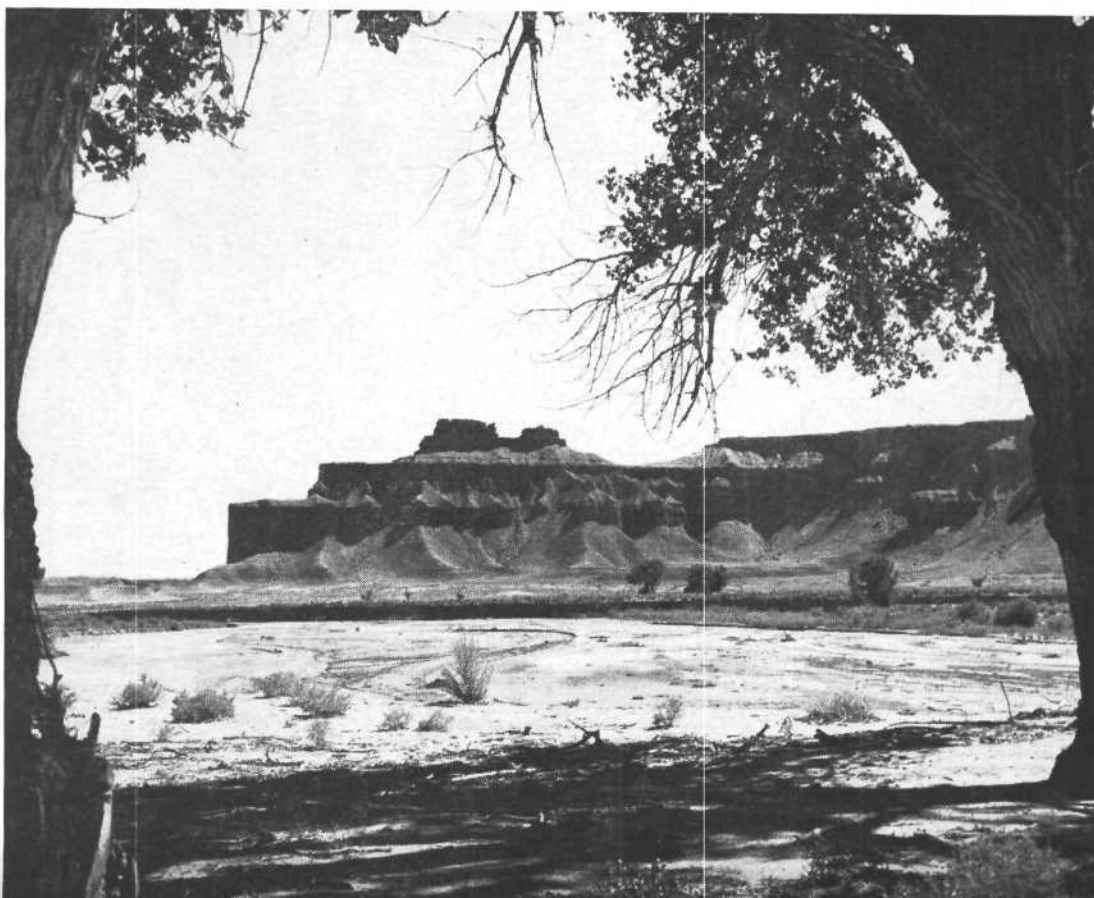
PICTURES of the MONTH . . .

Burros in Pasture

Mother reaches for a tender leaf while Junior pauses for some digestive thought. Hetty Cooper of Flagstaff caught these two burros grazing near Coolidge Dam, Arizona, and took a prize-winning picture, awarded first place in Desert's February photo contest. Miss Cooper used a Rolleiflex camera, super XX film, K2 filter, 1/100 second at f. 8.

Ship in Blue Valley

Barbara Bixby of Santa Maria, California, photographed this ship rock off Highway 95 near Hanksville in Southern Utah. The picture, taken with a Ciro-flex camera, plus X film, 1/50 second at f. 22, won second prize in February's contest.





The author pans gold in Black Canyon Creek, from an old bench placer located about a mile above Black Canyon's junction with Bumblebee Creek.

There's Still Color in the Old Placer Fields . . .

The old-timers—the first-comers—got most of the Southwest gold. But there still are some values left in the old placer fields, at least enough color to show in the bottom of the pan for spare-time prospectors like E. C. Thoroman. Here is an unusual story—Thoroman's log of twenty old placer diggings in Arizona. With Norton Allen's map, it will guide Desert Magazine readers along desert trails to another fascinating hobby.

By E. C. THOROMAN

Photographs by the author

Map by Norton Allen

IT WAS an old prospector — a chance acquaintance of four years ago—who first interested me in panning gold as a hobby. Since meeting him, I have worked many of the old placer fields in Arizona and have known—along with sore muscles, blistered hands and a backache—the thrill of discovery which comes with a gleam of color in the bottom of a pan.

Although the values I've panned

have never been high, it has been a fascinating hobby, reworking the gravel in some of the creeks where the old-timers once took out an ounce of gold to the running foot of stream.

My first digging was on Big Bug Creek, about 15 miles northwest of Mayer, Arizona. With some college students I worked along the stream bank scooping out potholes and cracks in the bedrock—and getting a trace

of color in nearly every pan. Later I camped along the creek for three weeks. The gravel is not large, bedrock is fairly close to the surface and no serious mining problems were involved. I did not find much gold—only a few tiny flakes in a pan, but I was a confirmed spare-time prospector by the end of the three weeks.

Jim Thomas, who worked a claim on Rich Gulch, near the ghost town of Stanton, about 12 miles east of Congress Junction, between 1933 and 1938, laughed at the fine gold I was panning at Big Bug. Talking in terms of nuggets weighing an ounce or more, he induced me to go to Rich Gulch. This gravel lies on the north side of the famous Rich Hill where early day prospectors occasionally found nuggets lying on top of the ground.

Here the digging was deep, and due

to heavy boulders, rather difficult. Bedrock, where the best values generally are found, was from a foot to ten feet down. Some of the boulders were so big we had to use dynamite, and in some instances shot them twice before we could lift the fragments out of the streambed. There is very little fine gold in either Rich Gulch or Antelope Creek. Nuggets are from a few grains to over an ounce in weight. We finally gave up because of the mass of overburden, but there is still gold of high quality under all those boulders.

About four miles from Rock Springs is the old stage station of Gillette. Here, practically on top of the ground, is a fine flake gold which is hard to handle. It pans nicely, but since it lies in adobe, it clogs riffle boards and is too fine to be caught in a dry washer. For years people have tried unsuccessfully to work it in quantity. Each pan yields a few colors from almost anywhere around the old camp. It is fairly accessible and is a lovely picnic spot made picturesque by the remaining old adobe buildings.

Just above the old Ore Grande pump house on the Hassayampa River, about 15 miles northeast of Wickenburg, is another old placer which yields fine and occasionally shot gold. The gravel can be readily drywashed and concentrates panned in the nearby

Hassayampa. This canyon in the river is a favorite camping spot for nearby dude ranchers. About half a mile farther east are the Old Spanish Diggings which also produce colors. Gold is in the washes and in surface dirt on the banks of the streams.

A very fine flake gold can be obtained from almost any wash on the east side of the highway for about five miles south of Wickenburg. The overburden is from six inches to a foot. It carries a heavy black sand which quickly loads the screen of a drywasher. From one to two dollars worth of gold can be taken in a day in this area.

Just north of Carl Pleasant Dam lies Morgan's Wash. Considerable flake gold has been brought out of this area, and I was anxious to try my luck there. With my jeep I was able to get up the wash about four miles to where the bedrock is close to the surface. I had a small pump and riffle box and with this rudimentary equipment moved considerable dirt from the bedrock ledges—but with disappointing results. I managed to separate some fine flakes, but nothing to compare with the stories I had heard about the region. Indications were that high water had changed some of the previous placer bars.

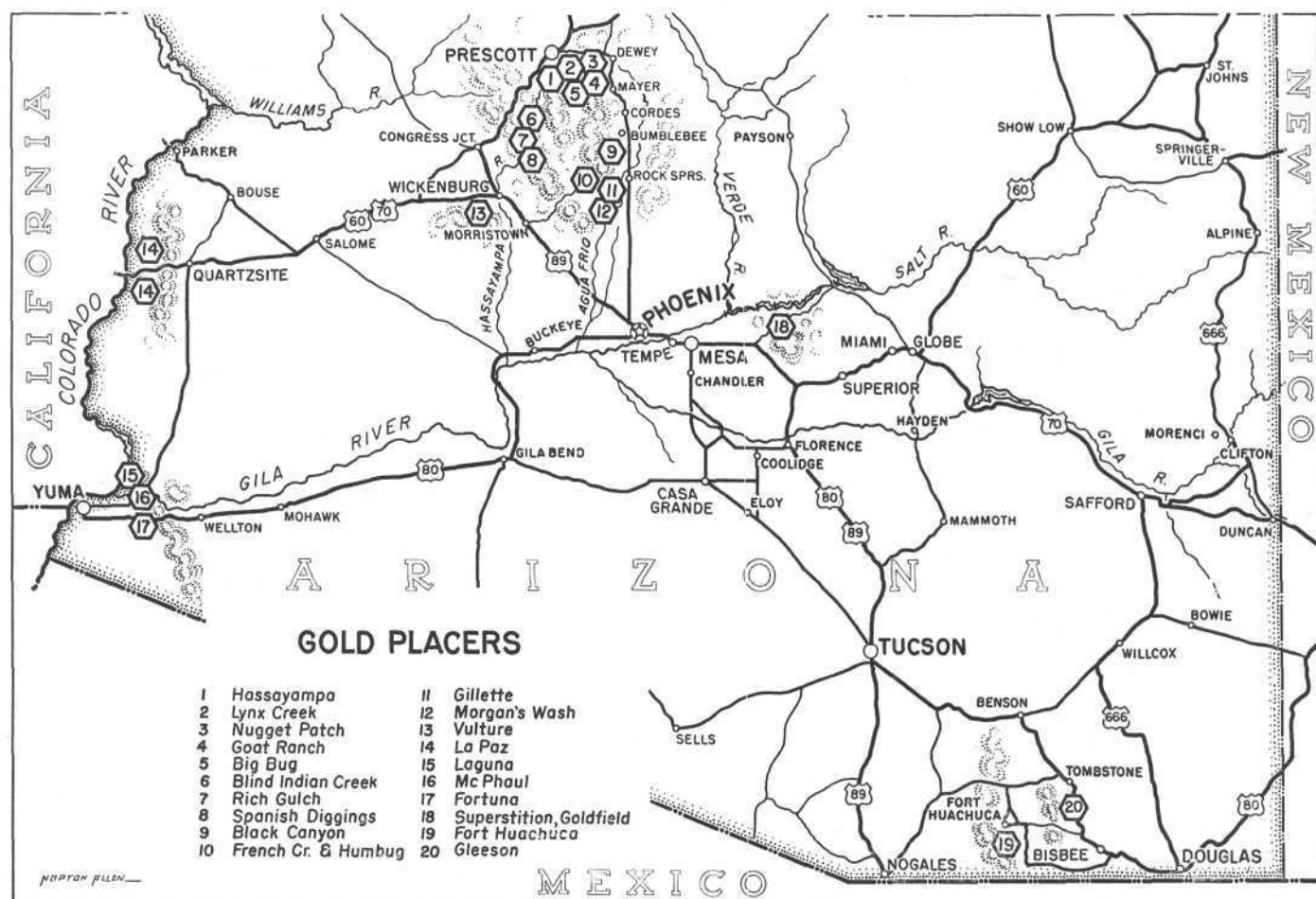
Morgan's Wash runs only after

heavy rains, but drywashing can be done most of the year. There is still some fine gold to be obtained along the bedrock ledges.

A few years ago, an old-timer who had driven a freight wagon during the '90s told me that the Mexicans had worked a small wash near Goat Ranch, an old landmark between Mayer and Dewey. I followed his directions and drywashed the lower end with very poor results. However, in working up the stream I began to get larger gold, and finally was obtaining from \$1.50 to \$3.00 a trip in fairly coarse gold. The overburden is largely sand, not over a foot deep in most places. The gold is considerably worn; I found one small nugget shaped like a mitten and another like a star.

Despite all prospectors' reports on the Superstition Mountain and Goldfield area—reputed locale of the famous Lost Dutchman Mine—I can only say that in several trips I have drywashed a number of the washes in the area on the north side of Superstition Mountain with very meager results. I obtained extremely fine gold and only a few specks in each pan of concentrates. The same has been true of the Stewart Mountain Dam area.

My experiences in the Yuma area also have not justified reports. Marvin Smith, game ranger in the district,



states that each winter 40 or 50 old timers drywash the Fortuna, Laguna and McPhaul placers. Fortuna is probably the first placer field to be located in Arizona. I worked for several days, surrounded by the diggings and pot-holes of former workers, but my results were very poor, with none of the coarse gold and small nuggets which are said to be obtained in those fields.

While I have been over some of the ground in the La Paz district and have seen the extensive diggings and the large area in which gold can still be recovered by drywashing, I was unable to spend sufficient time there to give an adequate report.

South of Tombstone, and just beyond the town of Gleeson is the old Gleeson placer, which lies conveniently near the road. While on a trip to Turquoise Ridge, my son and I stopped at the old placer. Our efforts were rewarded with a few colors, and I was sorry that time did not permit further work. The field was worked extensively until the water supply failed, and Lee Thompson relates that considerable gold was obtained.

Around the town of Bumblebee, below the junction of Bumblebee and Black Canyon Creeks, are several old bench placers, which still produce colors when panned. These are not very profitable, but the scenic setting is lovely. Unfortunately I cannot verify the accounts of diggings which produced several dollars for a few hours' work.

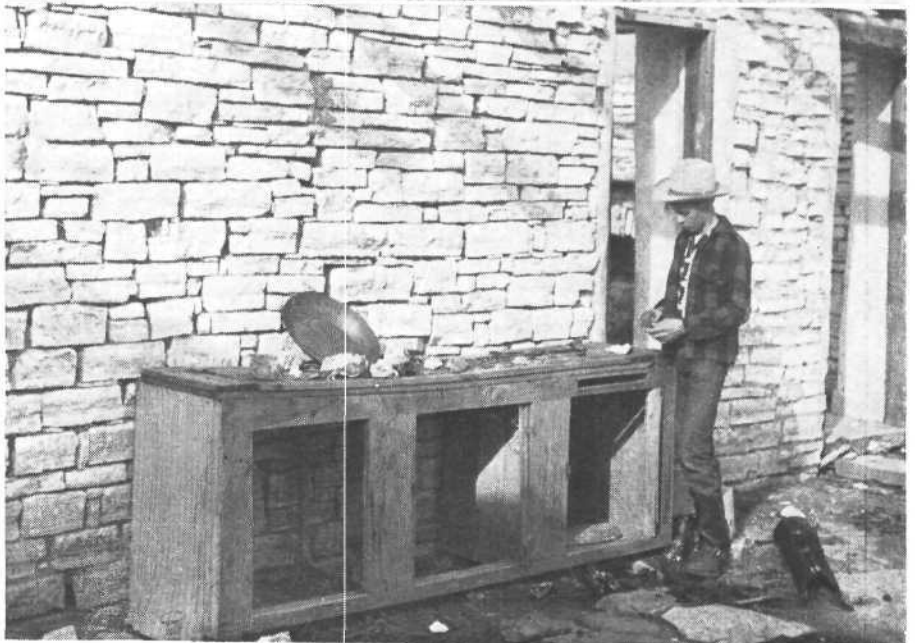
Beyond the dam of the old Senator Mine, about 15 miles south of Prescott, is one of the most picturesque spots in which a prospector can work. Amid pines and aspen, the headwaters of the Hassayampa River gurgles through rocky canyons. The gold which I have taken out here is not large, but it is



Above — Old rocker which has rested for half a century on the banks of Goat Ranch Gulch, near Humboldt. This stream, worked by Mexicans in 1890 and again during the depression, still yields gold, although water does not run every year and values must be obtained by dry washing.

Center—This shovel is last remaining piece of equipment of a large placer operation on Eugene Gulch, near its junction with Big Bug Creek. When operating, this placer produced about a dollar's worth of gold per yard of gravel. From 40 to 50 yards a day were worked.

Below—The author's son examines rock specimens at the old stage station at Gillette. This building also housed the offices of the Tip Top Mine about 1918.



rough and unweathered, often appearing in peculiar formations. Most of what I have panned has been dug from cracks in the bedrock.

History reveals that the old Walnut Grove-Wagoner district along Blind Indian Creek was heavily worked in its day. Old residents still insist good values can be obtained there, and a little gold does come out every year. But you couldn't prove it by me; I had no luck at all.

Along French Creek, near Champie's Ranch, 26 miles northeast of Morristown, I have obtained fines along the margin of the stream where bedrock is near the surface. Large flake gold can be obtained by traveling along the course of the stream, and I have seen some very nice specimens taken there. Harder to reach because of rough roads is Humbug Creek, about six miles beyond Champie's. Here coarse gold can be obtained on the bedrock. I would warn prospectors that the road is one-way, rough, steep and best suited to cars with high centers.

I hesitate to discuss Nugget Patch, which is a part of the famous Lynx Creek placer, about a mile south of the Black Canyon highway and nine miles east of Prescott. The location is true to its name—nuggets are there. They are not plentiful, and considerable drywashing is done in the area. A person can work for several days without seeing a trace of gold. But when a nugget is found, it usually is worth several dollars. I saw a nugget slightly over a pennyweight picked up there last summer. The black sand is a nuisance, since it quickly loads the

riffles. But, being a bench placer, the spot otherwise is easily worked.

Along with many others, I have visited the famous Vulture Mine. Here the caretaker will gladly help you with the technique of drywashing and panning. The gold is generally quite fine, and work is restricted to the supervision of the caretaker. About two miles from the mine proper is the old Vulture or Henry Wickenburg placer. Very little remains in the stream, but the adjacent bench land still produces some color.

Ever since coming to Arizona, I had heard stories about gold and platinum in the Huachuca area. While the reservation was still under supervision of the State Game and Fish Commission, I obtained permission to prospect there. A local resident had told me that gold had been found behind the old rifle range. I located the streams behind the target ranges used during World War I, and sunk my digging to bedrock. I obtained several pounds of bullets of military calibre, considerable black sand and a few specks of gold. No platinum was in evidence. I have also heard rumors of platinum in the Humbug-Cow Creek area. While on the reservation I sampled several streams with much the same result—very little gold, but always traces. Since the military have again occupied the post, it is no longer open to prospecting.

Next I turned my attention to the Lynx Creek area. My first sampling in Knapp's Gulch resulted in a few coarse grains dug from the streambed and worked through a cradle. Working down the stream and checking the side washes, I discovered that I ob-

tained more gold from bench placer and side washes than from Lynx Creek itself. With the help of Jack Redmond, one of the two remaining prospectors in that area, I located bench placers as high as a hundred feet above Lynx Creek and more than half a mile from the creekbed. In the section of the creek which has been dredged, bedrock ledges still produce flake gold when the prospector breaks up the weathering formations and either drywashes or pans his concentrates.

The large gold is still in the bench placer above the streambed. Here the gold is coarse and rough, and occasional nuggets of small size are found. Seven Mile Gulch, Indian Creek and Indian Hill, Whiskey Gulch and many unnamed little washes have all produced gold for me. Since these are all away from the stream, the dirt must be drywashed.

During the past three-quarters of a century, practically every possible stream and wash in the Southwest has been explored, and the gold which had been weathering out for ages has been claimed by panning, sluicing, dredging and drywashing. The evidences of old sluicing ditches can be traced for miles. During the depression early placer areas were again worked over, providing a living for an untold number of hardrock miners who were forced out of work by mine shutdowns. Most of the gold which is being recovered today lies at the edges of the stream, along the slopes of sidewashes or in heretofore concealed ledges of bedrock, and it is so fine and scarce that it was considered unprofitable to work by the early prospectors.

The caretaker of the Monte Carlo Mine recently showed me some gold taken from dry washes west of Congress Junction which was so fine that it is hard to believe it could be held in a drywasher. Such gold was quickly passed over by the men who were digging a hundred dollars worth of values daily in the richer areas.

Practically all of the streambeds in Arizona are under claims, and in some cases the washes run through deeded land, but there is so little activity on the part of the owners that most of them are willing to permit occasional prospectors like myself to dig on their claims. Most of them will not only give permission, but will tell you where the best spots are. Often they will spend the day teaching you how to pan, recounting their experiences and in general enjoying your pleasure in finding values. Despite the scarcity of gold, there will always be those like myself who enjoy the thrill of finding a little color in the bottom of a gold pan.

Gold Panning Takes Practice . . .

Gold panning is an art and requires considerable practice.

The pan, nine to 16 inches in diameter and two to three inches deep, with the sides sloping at an angle of 45 degrees, is filled about half full of the gravel to be tested. The pan is held in both hands. Stooping down by a stream, the prospector fills it with water, and the light material is washed out; heavier gravel and large pebbles are left behind. While the pan is under water, the larger washed pebbles are discarded by hand.



The pan is then shaken, in a way difficult to describe, until all of the valueless material has been washed out and only gold and black sand remain. The discarding of waste should be done carefully and slowly toward the end of the process. Finally the gold remains in the bottom of the pan for examination and calculation.

The method of dipping the pan in water, the peculiar circular, concentric or oscillating motion of the washing process, depressing the edge to discharge the waste and the final collection of gold require skill.

The Desert Blooms Again

And the desert shall rejoice, and blossom as the rose.—Isaiah 35:1

By ELLA LOUISE HEATLEY
Long Beach, California

"The desert shall rejoice and blossom as the rose";
Spring's miracle, rain-wrought, is flung
across the land;
With iridescent loveliness, alive as opal's
fire,
She spreads mosaic coverlets to hide the
barren sand,
In promised exultation, the desert blooms
and glows.

TRANQUILITY

By ELNA SUNDQUIST BAKKER
Los Angeles, California

What good is there in wasted land
Where crops can't grow?
Earth should produce, should be fulfilled
And rivers flow.

True it is there must be fruit
And fertile space,
But true it is my spirit asks
A desert place.

The naked branch and shriveled leaf
Can speak to me:
What is alive within you means
Tranquility.

I INQUIRE OF LITTLE RABBIT

By MARY ALDEN CAMPBELL
Long Beach, California

Come, little rabbit, from burrow and brush,
Out to the dunes, in the clear morning hush!
Quick, to your foraging; busily nibble—
Dry are the weeds and poor the gray stubble.
Enough, little rabbit?

Crouch for a sudden leap, danger approach-
ing!
Man with a jealous eye marks your en-
croaching;
Drive back your young ones, helter and
skelter
Scurrying, terror-swift, into your shelter!
All safe, little rabbit?

Hide in a labyrinth, secret, recessed,
Matted and soft with the fur from your
breast.
Wait while the desert sun rides overhead,
Nuzzle and cuddle the babes in your bed.
Content, little rabbit?

Timid, you come—hop, hop, from the ark.
Trusting, through centuries, night and the
dark!
Preyed upon, slaughtered: yet, increased,
you thrive!
Why? For what ultimate do you survive?
No voice, little rabbit?

OCOTILLO IN BLOOM

By FAYE M. GOULD
La Mesa, California

Ocotillo—Coachman's Whip—
Scarlet flame on candle tip
There against blue desert sky,
Searing not the butterfly
That comes to rest on thy bright flame.
Enchanted wonderment thy aim.



*Verbenas and primroses on the floor of Borrego Valley, California. Photo
by Harry W. Roche, San Diego.*

SPRINGTIME ON THE DESERT

By ANNA M. KLAGGE
Phoenix, Arizona
Springtime on the desert—
Beauty everywhere,
Mesquite and ironwood,
Flowers in their hair.

Carpets of verberna,
Lupines garbed in blue,
Saucy golden poppies
Staring wide-eyed too.

Gold-sprayed palo verde
Marching on parade,
Oriole and thrasher
Lend their lilting aid.

Cacti with corsages,
Ocotillo too,
Flaunt their flaming colors
'Neath the baby blue.

DESERT EASTER

By KAREN NIEMANN
Glendale, California
Cool is the wind
Blowing the night
Out of the east,
Gentle the light
Across the sand.

Quiet the hour
Easter is born,
Pale is the sky
Like old curtains torn
On Joshua trees.

Old curtains torn
And blown away—
In the wonder of dawn
We kneel and pray.

THE STRIKE

By COLLEEN MURRAY
Palm Springs, California

When I was young I searched for gold upon
the desert floor,
Through scorching sand and endless sun I
quested only ore,
I did not see the desert bloom so bright
against the sky,
Nor did I catch the hues of mountains
wasted to my eye,
And then one day, with back grown tired,
with aged fingers lame,
I raised my earth-bound eyes and in God's
beauty struck my claim.

Reaping

By TANYA SOUTH

We cannot lose what is our own.
It waits for us and us alone.
It waits. And in due time appears.
Despite our laughter or our tears,
Stern to demand reprisals paid,
Or give as we have earned of aid.



*These are part of the petroglyphs found at a series of tinajas in a tributary canyon.
An ancient Indian trail leads to this site.*

The Ancients Were Here

A bighorn sheep hunter brought back word that he had seen Indian cliff dwellings in a remote canyon in Baja California, nearly 100 miles below the California border. And this was the clue that led a jeep expedition into the region last November. Members of the party found evidence of prehistoric Indian occupancy—but a different type of cliff dwellings than is common in Arizona and New Mexico.

By RANDALL HENDERSON

Map by Norton Allen

IN 1928 John Cudahy wrote a book about his experiences as a hunter in the desert region of northern Baja California. The book, *Mañanaland*, long out of print, contains the following reference to the Arroyo Grande—a great dry water-course which slashes through the mountains near the headwaters of the Gulf of California:

At one turn we saw, high up, the storied dwellings of an ancient race of cliff dwellers, fantastically cleft in the chrome-colored rock — tier after tier of them, perhaps a hundred in all. What strange people had lived in those inaccessible

heights, like eagles in their eyries so far removed from the crawling ants miles below?

Indian cliff dwellings in Lower California!

My friends among the archeologists told me it was very improbable. There was no record that the prehistoric tribesmen in either of the Californias had ever built cliff houses—at least not the type of cliff dwellings found in Mesa Verde and a hundred other canyons in the remote regions of Arizona, New Mexico, Utah and Colorado.

But none of these students of prehistoric Indian life had ever been in Arroyo Grande. In fact, Arroyo

Grande was virtually unknown, even to the residents of Calexico, the closest port of entry, less than a hundred miles to the north.

I was publishing Calexico's daily Chronicle at the time John Cudahy's book appeared, and I asked many acquaintances among both the American and the Mexican residents of the Calexico-Mexicali border community what they knew about cliff dwellings in the great canyon known as Arroyo Grande. My friend Malcolm Huey told me that he and Oscar Petersen had once gone up the Arroyo in a light truck hunting deer. But they were looking for wild game, not for cliff dwellings—and they saw neither.

My interest in these reported cliff houses was further stimulated when I read in Arthur W. North's *Camp and Camino in Lower California*, now also out of print, the following:

"For untold generations the Arroyo Grande was an Indian Highway to the desert and the Colorado River,

and from its mouth, traversing the lava formation of the eastern portion of the desert, scar-like trails are still visible, although cacti, which require, the Indians say, two centuries for maturing, long ago overgrew these forgotten caminos and stretched their dead bodies athwart them. Until late in the last century the Arroyo Grande was a hiding place for outlaws, the *tinajas* being unknown to the Mexican authorities."

Arroyo Grande was also reported to have been the scene of one of the last battles fought by the William Walker filibustering expedition in Baja California in 1853. According to one report, 200 members of the filibustering army were surrounded in the sand-floored canyon and wiped out by a Mexican army.

For many years I had wanted to visit this almost inaccessible canyon where aborigines, outlaws and American filibusterers had passed, and possibly left records that would confirm their presence there.

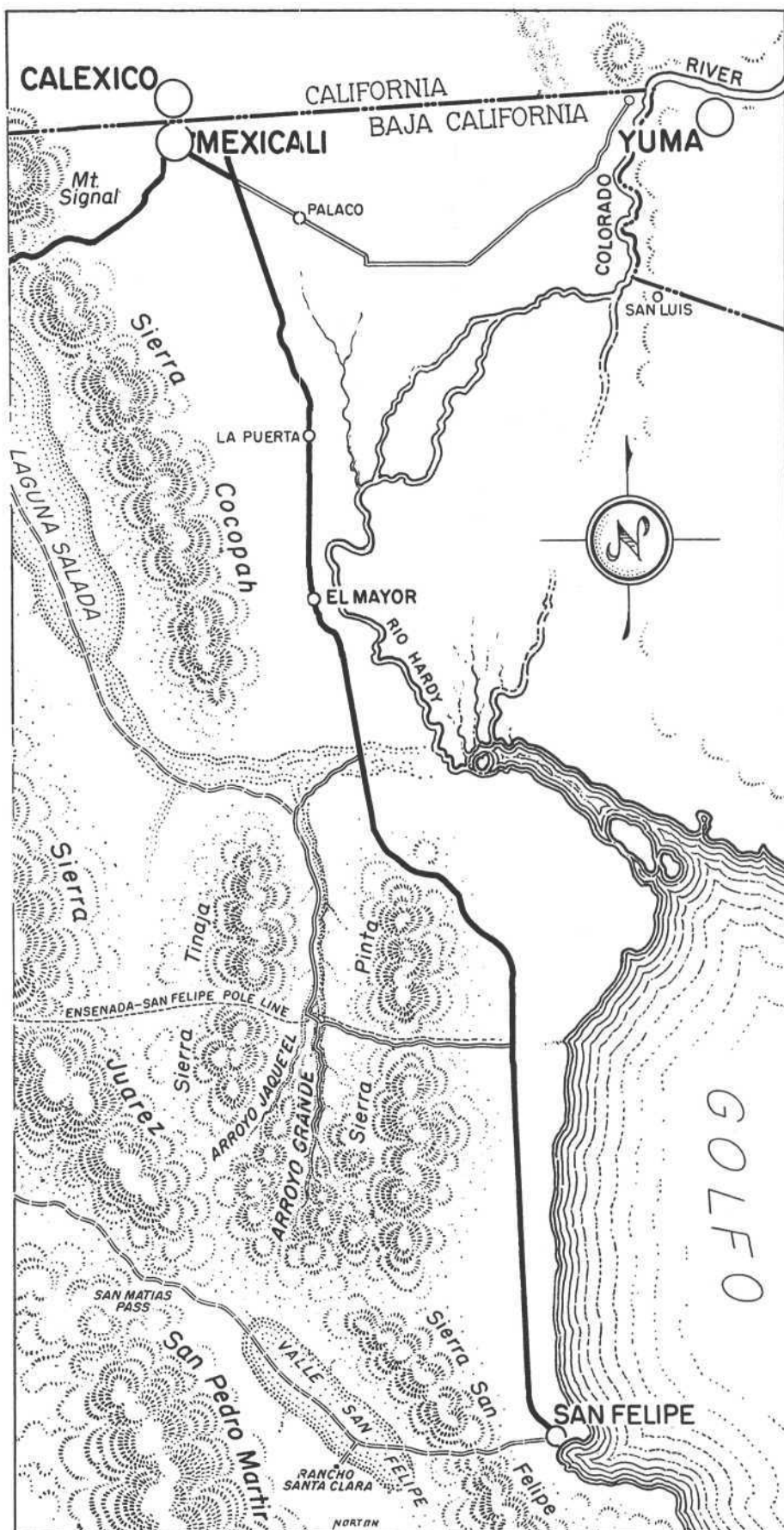
I had met John Cudahy during his visits to the Cudahy ranch near Calexico, and I was certain his reference to the Indian cliff dwellings in Arroyo Grande was not a deliberate falsehood. I was curious to know why he had made such a report, and never had the opportunity after his book appeared, to ask him in person.

Finally, in November 1952, a trip to Arroyo Grande was arranged. Arles Adams and I were to take our jeeps, and Bill Sherrill, chief of the Immigration Service border patrol at Calexico, Malcolm Huey, now a resident of Alpine, California, and Arles' son Tony were to be our companions.

Before sun-up on November 22 we crossed through the international gate at Mexicali. With more than 60,000 Mexicans now residing in the Mexican municipality this has become one of the most important gateways between the United States and Mexico.

We rolled along the newly paved highway that connects Mexicali with the fishing village of San Felipe, 140 miles away on the Gulf of California. At 28 miles from Mexicali we stopped at La Puerta to fill our gas tanks. Since hundreds of Americans now motor along this road every week, U.S. dollars are no less negotiable than Mexican pesos—and the cost of gasoline is about the same as on the California side of the border.

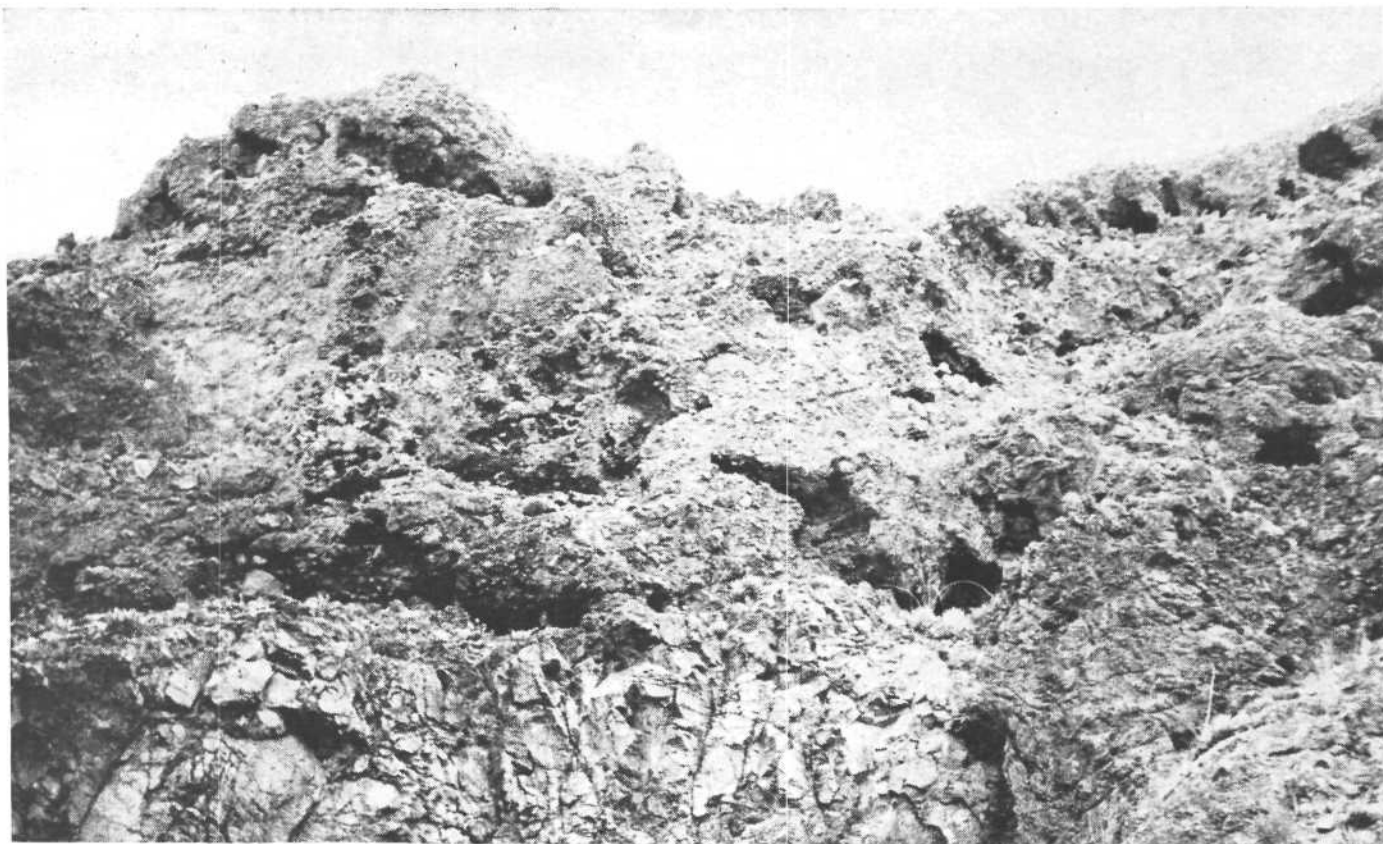
Fifteen miles beyond La Puerta is El Mayor where many American sportsmen go in their trailers and spend their vacation days fishing in the Hardy River, which really is an estuary of the gulf. The Cocopah



range of mountains parallels the road on the west.

Below El Mayor the road is constructed for several miles along the top of a causeway which extends

across the flood basin where water once backed in from the delta and filled the inland sea known as Laguna Salada. Here we left the paved road and followed an unimproved trail



It was on slopes like these that members of the party found hundreds of nature-eroded cavities where ancient tribesmen once lived.

across the new dry floor of the Laguna.

Our destination was now visible. Arroyo Grande is many miles wide at its entrance—a broad valley tributary to the Laguna Salada basin, it extends in a southerly direction between the Sierra Pinta on the east and the Sierra Tinaja on the west.

We continued along an unimproved and winding desert trail through ironwood, palo verde and smoke trees for 24 miles, bearing always to the south

and coming finally to a telephone pole line which crosses the arroyo at right angles. This telephone, now abandoned, was built by the U. S. armed forces during World War II, to connect San Felipe with Ensenada on the Pacific coast. It was feared that Japanese submarines might establish contact with secret agents by way of the Gulf of California, and this communication line was deemed necessary for the national security.

Where this military phone line crosses the Arroyo Grande another great dry watercourse comes in from the west as a tributary. This is the Arroyo Jaque'el.

Continuing upstream along the Arroyo Grande dry channel the mountains soon began to close in and our broad arroyo became a high-walled gorge. This is the beginning of Arroyo Grande proper. Beyond this point we continued for another 22.7 miles be-

fore the gorge became too narrow and the boulders too big to be surmounted by a jeep. Most of the time we were following an unblazed trail along the fairly smooth and sandy floor of a dry watercourse.

During a brief noonday stop for lunch 15 miles up the canyon we saw two bighorn sheep on the top of a ridge above us. There was evidence of deer, and it has been reported there are antelope in this wild region. Our expedition carried no guns.

In another three miles we came to a barbed wire fence across the canyon, evidently placed there by cattlemen. We opened a gate and continued on our way and in the late afternoon came unexpectedly to a camp where Henry Jolliff, who runs cattle in upper Arroyo Grande, and a Mexican vaquero were cooking supper. There was surprise on both sides—at finding other human beings in this remote Baja California canyon.

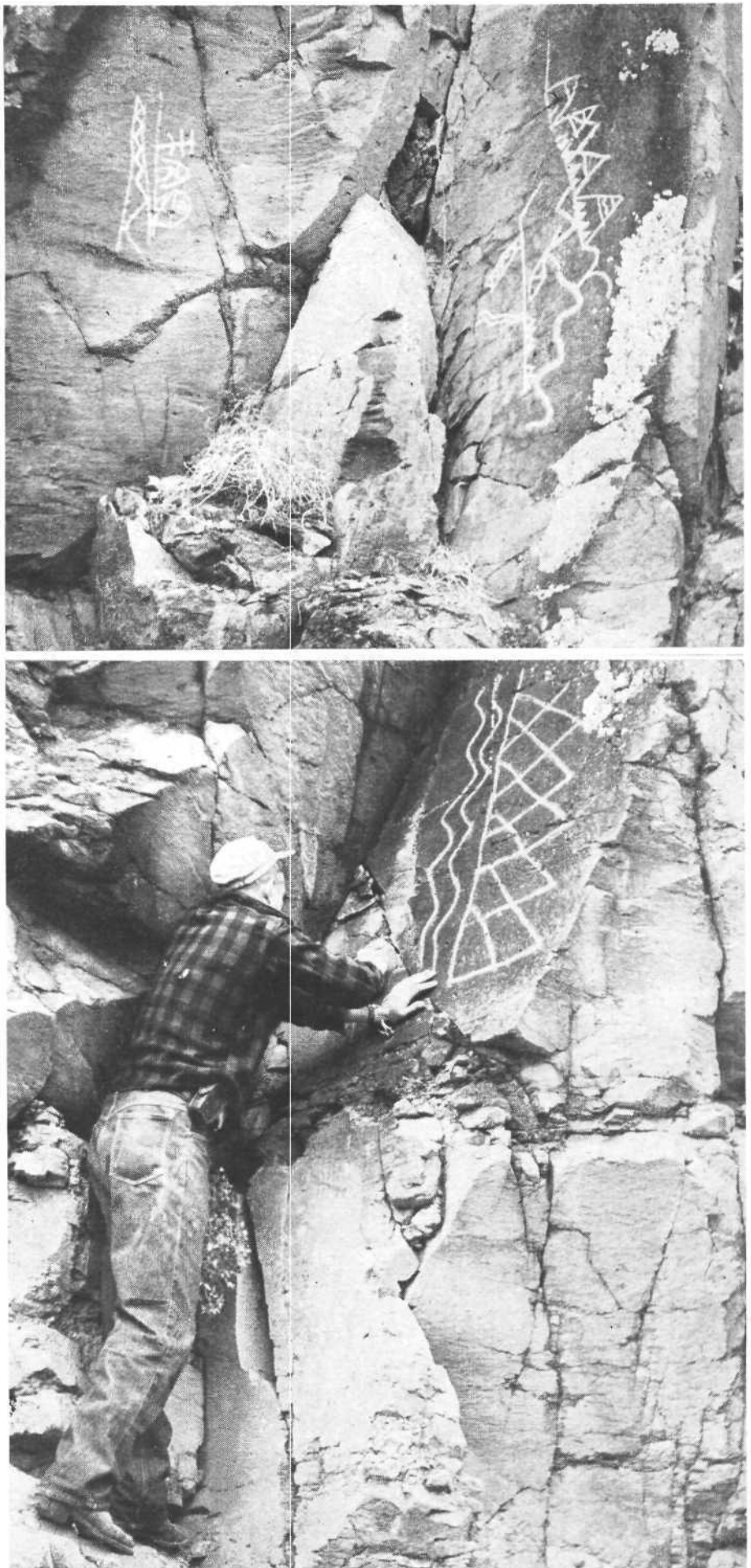
The cattlemen, who had ridden in on horses from the west, told us we were virtually at the end of our jeep trail—that the boulders in the channel would not permit us to go more than another quarter of a mile. When we reached these rocks we made camp, and at our invitation the cattlemen came over after supper for a chat.

Although now a Mexican citizen, Jolliff is the son of one of the British colonists who settled in Ensenada in 1891-92 and built substantial homes there. These Britishers had obtained a farming and mining concession from the Mexican government, but the Yankee depression of 1893 and a series of drouth years made their venture unprofitable.

Henry Jolliff's father was one of a score of Englishmen who remained in the New World. The father is now dead, but Henry is carrying on extensive cattle operations on both the desert and the coastal sides of the mountain range which is the backbone of the upper peninsula. His three sisters are American citizens residing in California.

He told us that while the Pai Pai Indians run some cattle in that general area, there had been no wild Indians in Arroyo Grande within his memory. There is much evidence of prehistoric Indian occupancy, however, and he told us that four miles farther up the

These petroglyphs were found high up on a rock wall in upper Arroyo Grande. In the lower picture Bill Sherrill is chalking some glyphs which were too faint for good photographs.



canyon a huge rock covered with petroglyphs juts out into the channel of the arroyo.

Early next morning we headed upstream to find these glyphs. By lifting aside some large boulders we were able to take one of the jeeps another two miles up the arroyo, and then two more miles of hiking brought us to the cliff with the Indian markings—the same type of glyphs as are found all over the desert Southwest. No one has ever been able to give them a positive translation.

The sky was overcast and light rain fell at intervals. As every rockhound knows, a rock is more colorful when it is wet, and the showers that fell in Arroyo Grande that morning brought to my mind the word-picture of this gorge which John Cudahy had written:

"At nearly every turn the canyon sides presented an enchanting kaleidoscopic picture, as if seen with the changing colors of a magic lantern. Gentle tones of saffron and ochre diffused the rocks, where outcropping ridges were chaste as marble. Then at a sharp bend the scene would be tinted with lavender and rich lilac, traced with the delicate olive green of the palo verde. Abruptly, this would change to deep Indian red pigments, flashing green with creosote and cactus, shaded with amber and chrome, and all blended with the skill of a master artist."

Lower Sonoran zone vegetation grows luxuriantly in Arroyo Grande, including all the common species seen on the southern California desert—catsclaw, bisnaga, cholla and staghorn cactus, palo verde, mesquite, ironwood, ocotillo, desert willow, and on the levels above 1500 feet, agave. One species of cactus never seen on the Alta California side of the line is conspicuous here—the senita or old man cactus. Strangely, although Arroyo Grande is in the habitat of the Elephant tree, we saw none of these red-sapped denizens of Baja California until we left the Arroyo and were returning to the San Felipe road the next day.

Driving up the canyon we had seen no evidence of Indian cliff houses, and Jolliff told us that none existed in this region. But I was certain that John Cudahy's reference to Indian dwellings was not mere idle talk—that somewhere along this canyon were formations which had reminded him of prehistoric habitations.

Having returned from our hike to the petroglyphs by mid-morning we headed our jeeps down the arroyo,

resolved to find those "cliff houses" if they really existed.

And we did find them—but not the kind of cliff dwellings that were built by prehistoric tribesmen along the Rio Grande and the tributaries of the Colorado River. Six miles downstream from our overnight camp we came to a narrow defile in a red-walled sector of the gorge—and discovered that the steep slope of the canyon wall above was pitted with scores of cavities—natural cavities built by erosion of wind, water, sand, heat and cold. They ranged in size from tiny caves barely large enough to shelter a coyote to caverns big enough to house an Indian family.

Climbing by finger and toe holds to these caves we found in some of them clam shells, evidently brought in from the gulf where clams are plentiful along the beach, and broken pottery. At some prehistoric period Indian tribesmen had occupied these caverns.

John Cudahy told the truth when he said he saw the "dwellings of an ancient race of cliff dwellers" even though he was not talking about the type of cliff dwellings visualized by Americans who have been to Mesa

Verde or Betatakin or Canyon de Chelly.

Further confirmation of the presence here of ancient desert tribesmen at some period in the prehistoric past was found at the base of the cliff near where our cars were parked. Here were dim outlines of both the incised glyphs and the painted pictographs of prehistoric people. I am sure that a more intensive exploration of this site would yield many artifacts of the Indians who once occupied these eyries in the canyon walls.

Prompted by a tip given us by Henry Jolliff we parked our jeeps three miles farther down the canyon where there is a little cairn on a butte that extends out into the arroyo, and hiked up a dry tributary which comes in from the west. A quarter of a mile from the main streambed we came to a series of tinajas, some of them with water, and the granite wall near the largest of them was adorned with a score of the finest petroglyphs seen on the entire expedition.

This is another site where a more detailed search might yield much additional information about the Indians who once occupied this region. On

April Photo Prize Announcement

For those photographers who like to follow the little used desert trails in quest of new pictures, and who carry their bedroll and grub box with them, April is the ideal month on the desert. The days are seldom too warm for comfort, and the nights are delightful. And so, this April why not take the camera and a supply of film, and the camping outfit, and go out and get a prize-winning picture for Desert Magazine's Picture-of-the-Month contest? Any desert subject is acceptable, but of course the less commonplace objects have a better chance to win. Study the composition, the lighting and the background carefully—and if you get something extra good send it to Desert Magazine so 125,000 others can see your photographic masterpiece.

Entries for the April contest must be in the Desert Magazine office, Palm Desert, California, by April 20, and the winning prints will appear in the June issue. Pictures which arrive too late for one contest are held over for the next month. First prize is \$10; second prize \$5.00. For non-winning pictures accepted for publication \$3.00 each will be paid.

HERE ARE THE RULES

- 1—Prints for monthly contests must be black and white, 5x7 or larger, printed on glossy paper.
- 2—Each photograph submitted should be fully labeled as to subject, time and place. Also technical data: camera, shutter speed, hour of day, etc.
- 3—PRINTS WILL BE RETURNED WHEN RETURN POSTAGE IS ENCLOSED.
- 4—All entries must be in the Desert Magazine office by the 20th of the contest month.
- 5—Contests are open to both amateur and professional photographers. Desert Magazine requires first publication rights only of prize winning pictures.
- 6—Time and place of photograph are immaterial, except that it must be from the desert Southwest.
- 7—Judges will be selected from Desert's editorial staff, and awards will be made immediately after the close of the contest each month.

Address All Entries to Photo Editor

The Desert Magazine

PALM DESERT, CALIFORNIA



Arroyo Grande is a colorful canyon, where it is possible to travel 23 miles along the sandy floor of a dry watercourse through precipitous mountains.

the slope above the tinajas I found a well preserved old Indian trail, and guided by some white onyx float that could be seen on the hillside I discovered an outcropping seam of beautifully banded gray, white and tan onyx, of the type once described by John Hilton in *Desert Magazine* as "petrified bacon."

Probably this old Indian trail once was trod by the moccasined feet of tribesmen going from the mountains—the Sierra Juarez on the west where pinyon nuts are plentiful in season, to the Gulf 40 miles to the east where the Indians had ways of trapping the seafood which is so plentiful in the Gulf of California.

Arroyo Grande is accessible today only to horsemen, or to motor vehicles with four-wheel drive, or with the extra traction given by over-size tires. The water supply is very limited. We found good springs in the upper canyon near our overnight camp, but there is no running water along the 22-mile floor of the canyon below except at those rare intervals when storm water comes down the arroyo.

The water we found at the tinajas where the glyphs were seen had not been refreshed by rains recently, and

the meager supply had been fouled by the wildlife of the area. Probably there are many other natural tanks where the bighorn sheep and quail which range this desert can obtain water, but they have never been charted, and probably never will be, for there is nothing in this region to attract those who explore and map the desert region for financial profit.

Motor Log to Arroyo Grande

00.0	Calexico-Mexicali port of entry
28.3	La Puerta (gas and food)
43.0	El Mayor (Hardy River fishing)
58.0	Turn right off paved road to Laguna Salada
63.0	Junction. Take old San Felipe road to south.
87.2	Ensenada-San Felipe pole line.
91.7	Turn right off pole line road up Arroyo Grande (no trail)
97.0	Walls close in forming canyon
105.3	Small cairn on bluff on right marks side canyon where tinajas and glyphs are found
108.5	Red-wall formation with erosion cavities (cliff dwellings)
110.6	Fence
114.6	End of motor trip. Impassable beyond.

Home-bound, we retraced our route down the arroyo to the telephone line, and then turned right along the little used road built by the U. S. Army signal corps, or by the contractors who erected this line, and followed the poles 20 miles east to the paved San Felipe road. It is a sandy route, and I would prefer the longer trail into Arroyo Grande—the trail we had followed the previous day.

Many *Desert Magazine* readers in the past have taken the new road to San Felipe, and many more of them will do so in the future. It is a fine highway, to excellent fishing waters. Seventy-three miles from Mexicali they will see this pole line crossing the road. But unless they are well equipped for travel in the sand, I would warn them not to take the side road back through the Sierra Pinta.

Arroyo Grande is a delightful side trip for those properly equipped. I would like to go back there sometime, not for the loot of the pot-hunter, but just to learn more about those ancient tribesmen who selected such an impenetrable region for their habitat. They must have been a hardy race of men and women.

Wildflowers Discouraged by Winds, Lack of Rain: April Prospects Dim

AN ABNORMAL lack of rain in January and February considerably darkened the wildflower outlook for California's Coachella Valley and other Southwest desert areas.

A good display of geraea and verbena and millions of the tiny white flowers of the potato primrose had appeared along the Palm Desert-Indio highway early in February, and dune, wash and canyon wall held promise of a brilliant March display. But the lack of moisture, cold nights, drying winds and a stinging sand storm have discouraged many budding plantlings, and prospects for March and April flowering are not as good as earlier forecasts indicated.

The hardy encelia, however, withstood weather adversities to burst into golden color in late February, still holding back many of its buds for March opening. Here and there in desert canyons, the careful observer might find blossoming apricot mallow or a specimen or two of its cousin, the desert five-spot, a cupped lavender flower, its white interior spotted with scarlet. Chuperosa or hummingbird flower, lupine and several early-blooming barrel cacti also were in evidence the first of March.

Discouraging as the wildflower picture seemed in Coachella Valley, it was brighter there than in many other sections of the Southwest, notably along highway 80 in Southern California and Arizona. "There are practically no flowers between here and Coachella Valley," *Desert Magazine* Editor Randall Henderson, enroute to Texas' Big Bend Country, reported from Tucson March 1. "There are more flowers in Coachella alone than we saw along the entire route after leaving there. The same is true in southern Arizona south of Tucson—just no flowers, nor any prospect of many this season."

Generally sharing Coachella Valley's disappointment over the lack of winter rain, *Desert Magazine's* wildflower correspondents report from various Southwest areas as follows:

Lake Mead Recreation Area — "Unless we receive some showers soon, the outlook for a good April flower show is not favorable," Russell K. Grater, park naturalist, reported from Boulder City March 1. The Dead Mountains near Davis Dam, having had a good February rain, hold the most promise, and annuals are expected to be in full bloom by April. Perennials, including various species of cactus and the Joshua tree, give every indication of presenting a good show of blooms this season.

Mojave Desert—Mojave Desert flowers were already beginning to bloom in February, according to Mary Beal, desert botanist of Daggett, California. "By mid-March the desert should display much color," Miss Beal predicts, "but unless there is more rain soon this season will not approach the magnificence of last spring's flamboyant display. Along the Boulder Dam power line road, north from Highway 66, many small-flowered varieties of evening primrose were blooming late in February, as well as the large white basket evening primrose and the similar yellow one. Also in evidence were many mentzelias, spectacle pod, coreopsis, sand verbena, owl's clover, blue gilia, desert dandelion and its cousin, anisocoma.

"Farther east on Highway 66, near the Pisgah Crater area, is a veritable garden of flowers. The desert sunflowers are especially profuse, their blossoms stretching out in a sea of gold. Smaller plants—Mojave poppy, marigold, sand verbena, anisocoma and sun cups—are spotted here and there. With more rain we should have flowers through March and April and, at higher elevations, through May."

Death Valley National Monument—Late winds have dried the alluvial fans and dust blew almost constantly over Death Valley regions in late February. But E. E. Ogston, acting superintendent, still hopes for a fair display. "I do not notice increased growth in the annuals which were growing so profusely last month," he wrote late in February. "However, even though they are stunted, the plants are starting to bud, and a few of the desert gold are blooming." He expects a fairly good showing by mid-March.

Saguaro National Monument—After a completely dry month, prospects for the Tucson area were bleak until a storm February 2 deposited three inches of snow, considerably alleviating the moisture problem. Superintendent Samuel A. King was optimistic once again: "We should have a good display of annuals during the latter part of March and early April," he writes. "The beanpods and jewel flowers came up and blossomed earlier, but the plants were stunted and the flowers small and unattractive. The brittle bush and false mesquite have well advanced buds and should be in blossom shortly. Prickly pear and cholla—cane, staghorn and teddy bear varieties—will probably provide a colorful April display, and our hedgehogs have never failed to bloom in March."

Casa Grande National Monument — The wildflower season in the Coolidge, Arizona, area had been a week or two ahead of schedule—until two weeks of extremely cold February weather evened things up. A. T. Bicknell, Superintendent of Casa Grande National Monument, expected scorpion weed, gold fields, bladderpod, catsclaw, evening primrose, fiddleneck, crownbeard, lupine, desert marigold and mistletoe to blossom by late March or early April, as well as several varieties of cactus, including hedgehog, staghorn cholla and prickly pear.

Antelope Valley—"Our wildflowers need rain desperately," Jane S. Pinheiro wrote from Lancaster, California, March 1. "A snow flurry in late February and one brief shower did little more than keep the struggling plants from drying up, and very little new growth is visible. A few poppies are in bloom, as well as some birds-eye gilia, and dwarf lupine—but the blossoms are not large and do not indicate as good a massed display as we earlier had anticipated for April. One good rain could change the picture considerably."

Agua Caliente — Doris Noble, a Jackrabbit Homesteader in the Agua Caliente area, reported seeing an usually good display of verbena and primrose along the highway between Plaster City and Seeley in February. But, in this area also, lack of rain has caused many plants to wilt, and April prospects are not good.

LIFE ON THE DESERT

As told to ERNEST K. ALLEN

The old fellow had driven 20 mule teams between Death Valley and Mojave in the 1880s, and he liked to talk about his experiences. Ernest K. Allen liked to listen, and in this story—in the old-timer's own words—he passes on to Desert Magazine readers these tales of early borax mining days in Death Valley. Another winning story in Desert's contest series.

I WAS ABOUT 25 years old, a cow-puncher on a cattle ranch in Inyo County, when I first began hearing about Death Valley borax freighting. I heard they were paying extra good wages for men who could drive a string of 20 mules with a jerk-line.

I was practically brought up on the

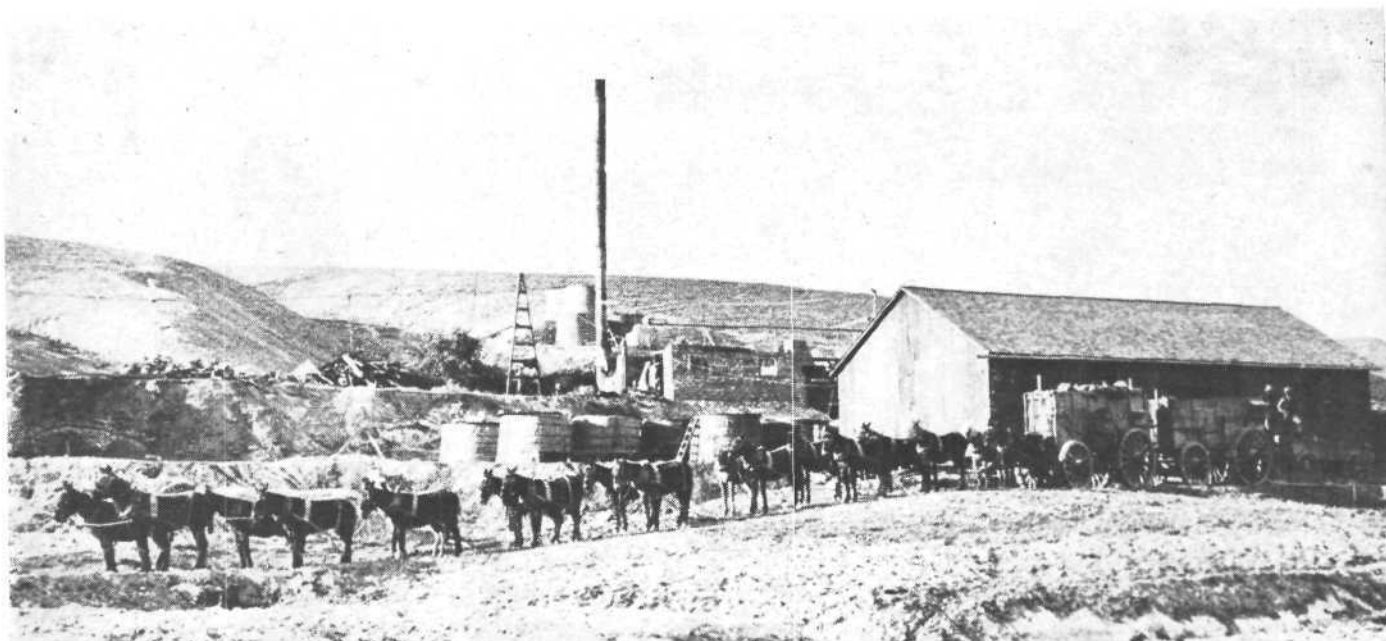
desert, so the desert didn't scare me none, and I'd had considerable experience with mules. A couple of years back I had driven a freight wagon with a four-mule team for over a year, but I hadn't ever driven with a jerk-line. Anyway, I figured I'd like a chance to earn the high wages the borax people were payin', so I went to

Mojave, where they did their hirin', and struck the wagon boss for a job.

He was a hard-boiled kind of fellow, but he was an awful good man, and I liked him a lot after I got to know him. J. S. Perry, his name was. He had an important job, too. He had charge of all the drivers and wagons and livestock, and was boss of every-

Twenty mule team. Picture probably taken on the Pacific Coast Borax Company's route from the deposits at Calico to Daggett. Earlier, in Death Valley, only lead mules were equipped with bridles. Photo from C. C. Pierce collection, courtesy Title Insurance and Trust Company.





Harmony Borax works, Death Valley, and 20-mule team freighting outfit—photo taken about 1885. Courtesy of Pacific Coast Borax Company.

thing connected with the haulin'. He told me they didn't need any drivers at that time, and besides they didn't send out a driver with one of those 20-mule teams till he was thoroughly broken in. Every outfit had a driver and a helper, or swamper. A man had to go out as swamper for quite a long spell, till he learned all he needed to know. Then if it looked like he could do the job he might get on as a driver when a vacancy came up.

Perry said they didn't need any swampers either just then, but if I wanted to work around the barns for a while he might be able to put me on as swamper in a few weeks. So for the next two or three weeks I fed and tended mules and helped around the blacksmith shop which they had for shoein' mules and makin' repairs on the wagons. One day the boss said if I was still of a mind to go swampin' he could send me out next day with Jerry, because Jerry's swamper was leavin'. So I went out on the road with Jerry, and I was swamper with him for four months.

After a few weeks Jerry started letting me drive the team myself part of the time, so I could get the hang of drivin' with a jerk-line. None of the mules had bridles on 'em except the two leaders, who had bridles or hack-amores without bits. There were no reins to guide any of the mules, only the jerk-line. The two wheelers were on each side of the tongue of the front wagon, then the rest of the mules were all free except where they were hitched to the draw-chain by a double-tree or spreader.

The driver guided the team by the jerk-line, a half inch rope that ran through rings on the mules' collars to the bridles on the leaders. We told the leaders which way to go by the number of jerks we gave on the jerk-line, and by talkin' to 'em. Those mules sure were smart, and they had to be well trained. If we had a short turn to make, the mules on the inside of the curve, except the wheelers and leaders, had to step over the draw-chain so they would all be pulling from the same side of the chain, and the ones out in front had to swing away out on the outside so as not to crowd the curve too close and cramp the wagons.

It was 165 miles from Mojave to the old Harmony Borax Works in Death Valley, where we loaded, and it took us 20 days to make a round trip. From one end of the road to the other there wasn't anybody livin', nor a house or building of any kind except the stations the company put up along the road. The Mojave desert was a lonesome place in those days. The railroad had only just been completed a few years before from Bakersfield through to Los Angeles by way of Tehachapi Pass and Mojave. There weren't any roads anywhere, and most people didn't know anything about the desert except the stories they heard about men getting stranded out there without water and dyin' of thirst. All this was before automobiles were invented, and folks didn't get around like they do now.

But I'd better tell you somethin' about the general lay-out, so you can

get the picture of how this Death Valley borax business was started and how the freightin' was operated. Along about 1882 a fellow by the name of W. T. Coleman of San Francisco bought the borax claims in Death Valley from the fellows that owned 'em, they not havin' capital enough to get their stuff to the market at a price they could sell at and make a profit. Coleman already had some borax claims of his own in Death Valley, and the first thing he did was to build the old Harmony Borax Works out there. There was a small borax plant in the Valley before, called the Eagle Borax Works, but that folded up about the time the Harmony plant was built.

Transportation was the sticker, and it took money, but Coleman had plenty of capital to get things started on a payin' basis, and things were goin' along all right until a few years later Coleman went broke, account of being mixed up in too many other kinds of business and havin' too many irons in the fire, as you might say.

F. M. Smith bought up the whole lay-out. Borax Smith was what they called him, and all the old-timers knew him by that name. Smith had made considerable money mining borax at a place called Teel's Marsh in Nevada, and he was really the pioneer in the borax business in this country. After Borax Smith bought out the Coleman interests, he incorporated the whole outfit, including his Nevada borax properties, under the name of the Pacific Coast Borax Co. Smith put a lot of money into improvements and really got things goin'. He was head of the

company for years, built it up into a big business and made a fortune out of it.

When Coleman started in the business he got a good man to run the Harmony Borax Works in Death Valley, and he hired this fellow Perry to figure out the haulin' and run that part of it. Perry had had a lot of experience teamin' and freightin', and he did a good job. A lot of new road had to be made, because there wasn't hardly any road to speak of before, and the road had to be put where the worst grades would be avoided. Also it had to connect up with the only three springs or water holes there were between Death Valley and Mojave. So they fixed the road to come up out of the Valley by way of Wingate Pass (Windy Gap we called it), then around by the south end of the Panamint Mountains.

There was a spring, or rather a water hole, at Mesquite Well not far from the lower end of Death Valley. Then it was 53 miles to Lone Willow Spring, then 26 miles to Granite Spring, then 56 miles across the flat desert to Mojave. None of these three water holes except Granite Spring could be depended on to have water all the year 'round.

The borax company cleaned out the three springs and fixed 'em up, and where they weren't handy to the road they put tanks alongside the road and piped the water down to 'em. Then they built a station at each of the springs, and others in between, where they figured the teams were most likely to get at the end of a day's run, and where the driver and swamper could sleep on bunks in the cabin if they got there at nightfall, and also where the mules could be turned out in a corral.

Mostly these places that they called stations were put there so we would have a place to cache feed for the mules. There wasn't anybody on duty there. The teams going to Death Valley left hay and grain at each of the stations and then used it up again on the way back, but we always carried extra feed with us on the wagons to use if we had to camp out in the desert, and also for noon feeding.

It only took them a few months to fix up the road. There wasn't much road-building to do out in the open desert where all they had to do was to drive a wagon over it once and they had a road, keepin' to the hard ground as much as possible and cuttin' out a few creosote bushes here and there. But at Wingate Pass, and where the road came through desert hills here and there, there was considerable



Francis M. Smith, better known as Borax Smith, who pioneered the borax industry in Death Valley.

grading to do with Fresno scrapers. There weren't any bulldozers in those days.

While they were getting the road fixed up, Mr. Perry designed the wagons and had 'em built right there at Mojave by some wagon-makers and wheelwrights that he hired and brought there. And they sure were built good. They had to be, for the work they were to do. They were big too. They claimed they were the biggest wagons ever used up to that time. The hind wheels were seven feet high, and the front wheels five feet, and they had steel tires eight inches wide. Each wagon was built to carry ten tons of

borax. Maybe you've seen some of those old borax wagons. After they quit using 'em there were two of 'em standing by the old Tonopah and Tidewater Railroad depot at Death Valley Junction for a long time, and there used to be one alongside the railroad track at Daggett.

There were ten of the big wagons built altogether. That made five outfits on the road all the time, because each 20-mule team hauled two wagons hitched together tandem, with a small trailer-wagon hitched on behind carrying a 500-gallon tank of water. Twenty mules to an outfit made a hundred mules in use besides replacements.

The Company had about 125 mules altogether, and they bought only the best mules they could get. Yes sir, two of those loaded borax wagons and a trailer, with 20 mules strung out ahead two by two, was quite an outfit.

You can see why there had to be a swamper. Herdin' 20 mules across the desert and feedin' and waterin' them, along with the other jobs there were to do, was too much work for one man. Besides that, if there was a break-down or accident of any kind it wouldn't have been safe for one man to be alone out there in the desert where he couldn't get any help. It would probably be two or three days before the next borax team would come along goin' either way, and there wasn't any other travel on that road in those days for maybe weeks at a time.

After I'd been swamper with Henry about four months, the boss told me one day that he was goin' to let me take Henry's place as driver. Henry wanted to lay off for three or four months and go prospectin', which he had been talkin' about for a long time. The boss said he would give me a good swamper, which he did. So then I was a full-fledged driver, and I stayed with the job nearly four years.

Herdin' a 20-mule borax team across the desert month after month was kind of a tough job, as I look back on it, what with the heat during a good part of the year, the desert winds we used to get sometimes and the thunder storms along in the late summer. There were dusty places along the road where the dust didn't help none either. Twenty mules can kick up a lot of dust, and if the wind was blowin' just right to blow it back in our faces, it was danged unpleasant. But if the wind was blowin' crossways of the road, it blew the dust away and we didn't mind it much.

The worst part of the trip was the grades. We had a long tough grade coming up through Wingate Pass. The road was bad there too, following along a sandy wash. But goin' down grade with a full load was worse than goin' up. The worst down grade was just after we left Granite Spring going toward Mojave. With the swamper on the rear wagon and the driver on the front one, both putting all their weight on the brake levers, the wagons would go creakin' and groanin' down the grade. On account of the way they were hitched up, the mules couldn't hold the load back none, like a single team could do on an ordinary wagon, so we had to depend entirely on the brakes.

Everything was all right if the brakes held, which they did practically always, but once in a while a brake-block would give way or a rod pull out and then there was trouble. The only thing to do then was to get the mules goin' on a trot, or a gallop if the wagons got rollin' too fast, and try to keep the mules from gettin' run down by the wagons until you got to a place where you could swing 'em off the road and up the side of the hill or into a sandy place where you could get the wagons stopped.

If a wheel struck a rock, or the team come to a short curve where they couldn't be swung around in time, chances were there'd be one or both of the wagons tipped over and the driver or swamper or some of the mules would get hurt, and hurt bad. That never happened to me, but it did happen several times to other drivers.

Lots of times a driver and swamper would have to camp out at night along the road. A team with a full load could only travel about 16 to 18 miles a day; empty wagons goin' back could make maybe 20 miles if they had no trouble. It didn't always work out to get to one of the stations at the end of a day's run. In that case we'd drive off the road at some likely place, unhitch the mules and feed an' water 'em, and hobble 'em for the night. Then we'd make a campfire with some dry creosote roots, fix our bacon and beans and coffee, spread out our bedrolls and sleep on the ground.

Conditions weren't so bad, except in the real hot weather an' when we got caught in a summer thunder shower or cloudburst. To my notion, from October to June there ain't no better place to be than out on the desert, in the good pure air and sunshine.

But along about May it would start to get hot. It wasn't bad at the Mojave end of the run, but out towards Death Valley it would get so hot by the first of July they'd have to close down everythin' and lay everybody off for about three months. And it used to get awful hot for a month or so before the summer lay-off and for quite a spell after we went back to work again.

I stayed with borax freightin' for four years—till lay-off time one summer. Then I quit and went to ranchin' over in Arizona. It wasn't very long after that till they quit haulin' borax from Death Valley. The company's business was growin' fast, and they hadn't been workin' the Death Valley deposits more than half a dozen years before they realized they soon wouldn't

have enough borax there to take care of their business.

Around 1890 they opened up a deposit in the Calico Mountains and started haulin' with 20-mule teams from there to Daggett on the Santa Fe Railroad, but they kept on haulin' from Death Valley for a while after that. Later they switched operations to the Lila C. borax mine over in the Funeral Mountains near Death Valley Junction. That was after they built the Tonopah and Tidewater Railroad about 1905, which hauled borax from the Lila C. and also connected the Nevada mining camps with the main line railroads to the south during the boom days. For a while they used 20-mule teams haulin' from the Lila C. to Death Valley Junction on the Tonopah and Tidewater but they soon built a narrow-gauge spur track from the railroad to the mine, and when that was done the 20-mule teams had hauled their last load.

When the Lila C. mine was about worked out the company operated other borax deposits in the Funeral Mountains for quite a spell, connecting 'em with the Tonopah and Tidewater with narrow-gauge tracks running off to the mines. But that's all done away with now, and the old Tonopah and Tidewater Railroad was torn up a while back and the rails used somewhere else. The reason they quit workin' out there was because the company finally located a borax deposit big enough to last a lifetime or two, out in the Mojave Desert near Kramer, about 30 miles east of Mojave. They mine their borax there now from deep underground, and a branch line from the railroad runs direct to the mine.

So the borax works at Death Valley and the ones in the Calicos and out in the Funeral Mountains were all finally shut down, but long before they quit workin' in the Funeral Mountains the 20-mule teams were already a thing of the past. I suppose folks would have forgotten all about 'em by now or never have known they existed, if it hadn't been that the company realized they were sort of picturesque and had a lot of advertising value, as my daughter says. Articles about 'em had been printed in the Sunday papers and magazines, with pictures of 'em, and people knew about 'em that way. So the company still puts out their main product under the name of 20-Mule Team Borax, with a picture of one of the old 20-mule teams on every package. If it wasn't for that, I guess people nowadays wouldn't know nothin' about 'em.

Letters

Leave the Desert Alone . . .

Grand Junction, Colorado

Desert:

Here in the arid southwest, where our basic problem is and always has been water, water, and more water, the rain-making experiments have been watched with great interest. Wild were the hopes and fantastic the dreams.

Just imagine not having to spend all winter worrying about snow-pack in the mountains for summer irrigation water; just imagine no ditches to clean; no toting a shovel all summer; no reinfestation of weeds from up the canal. Rain! Not only enough, but when we wanted it. Ah, heaven was at our doorstep.

Well, it didn't work out that way. And I, and I think numerous others, are relieved. We like the desert as it is. True, it isn't the easiest place in the world to make a living, but if we preferred an easier existence to the joys of living here, we could always move elsewhere.

Supposing we could control the rainfall. Just think of all the neighborly dissension it would cause. While we wanted nice weather to cure our hay, our neighbor might want rain to bring up his new grass planting. When we had it rain for our corn, he would want it dry for his grain. He would want rain for his spring plowing when we wanted it dry for lambing. And so on and on. It would wind up with everybody not speaking to anybody, and someone getting sued continually. We accept God's climate and make the best of it, but if man mixes in we have someone to blame—and heaven help him.

Besides problems in human relations, there would be other unwanted changes. How long would the towering monoliths of our desert, that have stood for countless ages in the dry, desert climate, withstand the ravages of rainfall? Would the lush vegetation of abundant moisture take the place of cactus, prickly pear, pinyon, the short-lived vivid desert flowers in our hearts? Not in mine. How long would the centuries old cliff dwelling exist in a wet climate? And what of the present day Indians—the Hopi, the Zuni, the Navajo? Not only their age-old traditions, but their adobe pueblos and hogans would go down the drain, literally.

Who wants to see the painted desert a sea of vari-colored mud? How long

would it take the statue of a frontiersman, that appears on our nearby rimrock wall each morning from the first of December till the middle of January, to be eroded to a mere nub? What of the problem of erosion in general? Here with our shallow soil, our sandstone cliffs, a half century of heavy rainfall would leave our desert unrecognizable in every way.

What would greater humidity do to the clear, desert air; the hot, bright days of far distances; the cool, star-studded nights, with the moon-light glancing from some facet of the canyon wall, the rimrock black-etched against a velvet sky? These too would be only nostalgic memories.

So let's just leave it alone and take our chances as we've always taken them. Let's just leave the desert, the desert—arid, barren—and beautiful.

AMBER B. GROOM

Who's to Blame? . . .

Bonner Springs, Kansas

Desert:

In the October 1952, *Desert*, page 33, Dr. Fred T. Foard, Chief of the Health Branch of the Bureau of Indian Affairs, blames the American people for the "inexcusable health conditions" among the Indians.

How can Dr. Foard blame the American people for something they know nothing about? On a recent survey I find 99 percent of the people contacted think that the government is taking *good* care of the Indian.

I would like to ask the doctor if it was the American people who closed a much needed hospital at Kayenta, Arizona?

May I suggest to Dr. Foard, that if he and his assistants would get off the beaten path, they might find that their own department is much more to blame than the American people!

BLANCHE MILLER

Keep 'em Fenced . . .

Red Mountain, California

Desert:

I was interested in John Hilton's comments on modernistic art in the December issue of *Desert*. It seems Mr. Hilton just doesn't understand the modern trend.

Old school artists painted things as they saw them, and it is easy to see what they had in mind as they worked at their easels. Take Gainsborough's *Blue Boy* or Millet's *The Gleaners*, for instance, or any of Hilton's own paintings. You see at a glance what they are all about.

The modernists act differently. What you *think* you see when you look at a modern non-objective painting isn't what it is at all. The artist leaves it to you to figure it out.

Personally, I like to see those smears on art gallery walls. Living as I do in an extremely scenic area, beauty becomes commonplace. Busy with my daily chores, I look at the grandeur about me without seeing it unless there is some unusual condition of weather or light and shadow present at the moment.

After only an hour of looking over the daubs Hilton refers to and of trying to figure out just what possessed the dauber to create such unintelligible smears and call them art, I am ready to appreciate more fully the natural beauty of my home surroundings.

I don't agree with Hilton that these "artists" should be brought to the desert. The cities are for such crackpots. Let's leave them there.

E. S. KIRKLAND

Navajos in Portland . . .

Portland, Oregon

Desert:

This summer, about a hundred Navajos came to Portland to work on the railroad. One could see them on the streets and highways after working hours, going home to their quarters. Here they lived much as they did at home and dressed about the same. People soon grew used to them and learned many of their ways. We learned they were good people.

But an unfortunate incident occurred which came near spoiling the growing friendship between the two races. The Indians were accused of taking things from stores in the Parkrose district of Portland without paying for them. Several of the Navajos were taken and searched. None of the stolen articles was found.

Apologies were in order, and all the Indians were given a party by the local businessmen. In return, the tribespeople entertained their white hosts with a sing and a program of tribal dances. Everyone enjoyed it.

In Portland we learned that the Indian people are mighty good citizens, even when faced with humiliation and misunderstanding. It seems these people understand the white man better than the white man understands them.

JIMMIE JAMES

Another Burro Customer . . .

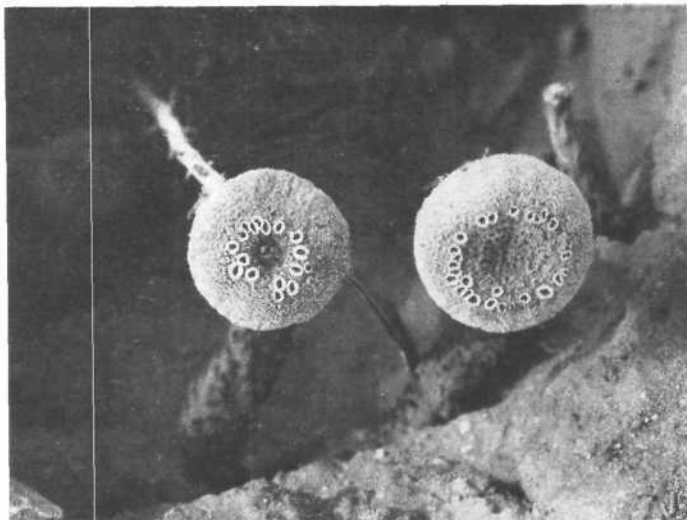
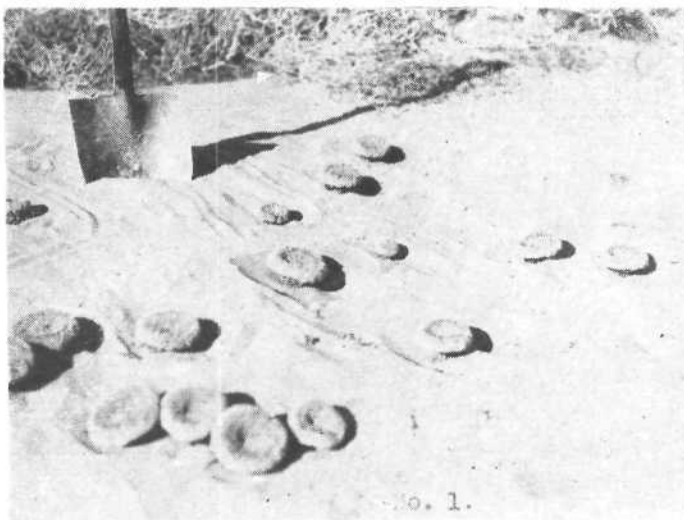
San Bernardino, California

Desert:

I am sure my brother-in-law, Charles B. Myers, c/o Monroe Candy and Tobacco Company, Bloomington, Indiana, would like to have one of those burros you are trying to save.

In Indiana, you can't buy a pony for less than \$125.

D. GAST



Above are two views of the heads of *Ammobroma sonorae* (sand food) as it appears in its native habitat—the dunes of Southern California, Arizona and Sonora, Mexico. In the picture on the right, the sand has been dug away to show the size and nature of the stalk which is eaten.

Sand Food of the Papagos

By FRANKLIN A. THACKERY
Photographs by Dewey Moore

IN 1854 Colonel Asa B. Gray was commissioned by the federal government to survey a possible railroad route to the Pacific coast by way of the dry arid Southwest.

When he had progressed westward as far as a Papago Indian village near Sonoyta, Sonora, Mexico, he decided to obtain a Papago Indian guide to pilot him to Adair Bay on the Gulf of California. For this purpose he obtained the services of the chief of this Papago village.

These Indians were known as the Sand Papago, because for unknown centuries, they had frequented the extensive chain of drifting sand dunes which extend from Imperial County, California, in a southeasterly direction, across the southwestern corner of Yuma County, Arizona, and into northwestern Sonora, Mexico.

The Sand Papago went frequently to these dunes to harvest large quantities of a parasitic plant which they called *bia-tatk* meaning sand (or sand hill) root. It is known botanically as *Ammobroma sonorae*. The word *Ammobroma* is derived from two Greek words, *ammo* (sand) and *bromos* (food). This chain of dunes is the only place in the world where it is found.

As Col. Gray proceeded westward with his surveying party they came to this chain of sand dunes. In his letter

Motorists passing over the Algodones sand dunes along Highway 80 between El Centro, California, and Yuma, Arizona, may in the spring of the year see toadstool-like heads protruding from the sand along the road. This is *Ammobroma*—the sand food of the Papago Indians, and a delicious food it is according to the testimony of those who have sampled it.

to Dr. John Torrey, noted botanist, dated at New York, October 20, 1854, Col. Gray reported as follows concerning *Ammobroma*:

"Immediately upon entering these sand hills, our course being across them in a westerly direction, I observed the Indian dismount from his horse and commence digging with his hands. At first I could not perceive his object, but shortly discovered that he had pulled out of the sand a vegetable-looking substance, which was shaped somewhat like a mushroom. He showed great eagerness to obtain more, and made a sign that it was good to eat."

The only part of this plant which appears above the surface is the pin-cushion-like head which is nearly the same color as the sand around it. It has a long fleshy stem or stock extending down into the sand to its contact on the root of the host plant. The length of its stock varies from two to five feet. It is this fleshy stock that the Indians prize so highly for food. Con-

tinuing the quotation from Col. Gray's letter:

"We encamped for the night in the sandhills, and the chief, instead of supping with us, as usual, made a fire, and roasted his roots or plants on the hot coals (which took about 20 minutes), and commenced eating them. None of the party seemed inclined to taste, but, out of courtesy, I moved over to the chief's fire, and he handed me one. At first I ate but little, and slowly, but in a few minutes, so delicious was it that I forgot my own mess, and ate heartily of it; next morning each of the party followed suit and afterwards there was scarcely enough gathered to satisfy us. The taste, though peculiar, was not unlike the sweet potato, but more delicate."

In 1890, Dr. Edward Palmer collected *Ammobroma* near Lerdo, Sonora, Mexico, not far from the Arizona boundary. He wrote as follows about it:

"The plant grows in deep sand, the deeper the sand the larger and juicier the plants. The Cocopa Indians gather them for food, which they relish under all circumstances. They eat it raw, boiled and roasted. The plant is full of moisture, and whites and Indians alike resort to it in traveling, as a valuable substitute for water. It has a pleasant taste, much resembling the sweet potato. . . . The Cocopa Indians call it *Oyutch*."

Carl Lumholtz visited this same general locality in March, 1910, and

had the following to say about *Ammobroma*:

"I sampled one of them and found it to be succulent and excellent food. It is more tender than a radish, as well as more juicy, and the whole root can be eaten. It has a sweetish and agreeable flavor all its own. The Indians usually toast these plants on the coals, when they resemble sweet potatoes in taste, but I prefer to eat them raw. They are an especially delicious relish to a thirsty man, and they also quickly appease hunger; in fact, of all the many kinds of edible roots that I have tried in their uncooked state, used among natives in different parts of the earth, I know of none which can compare with this one in refreshing and palatable qualities."

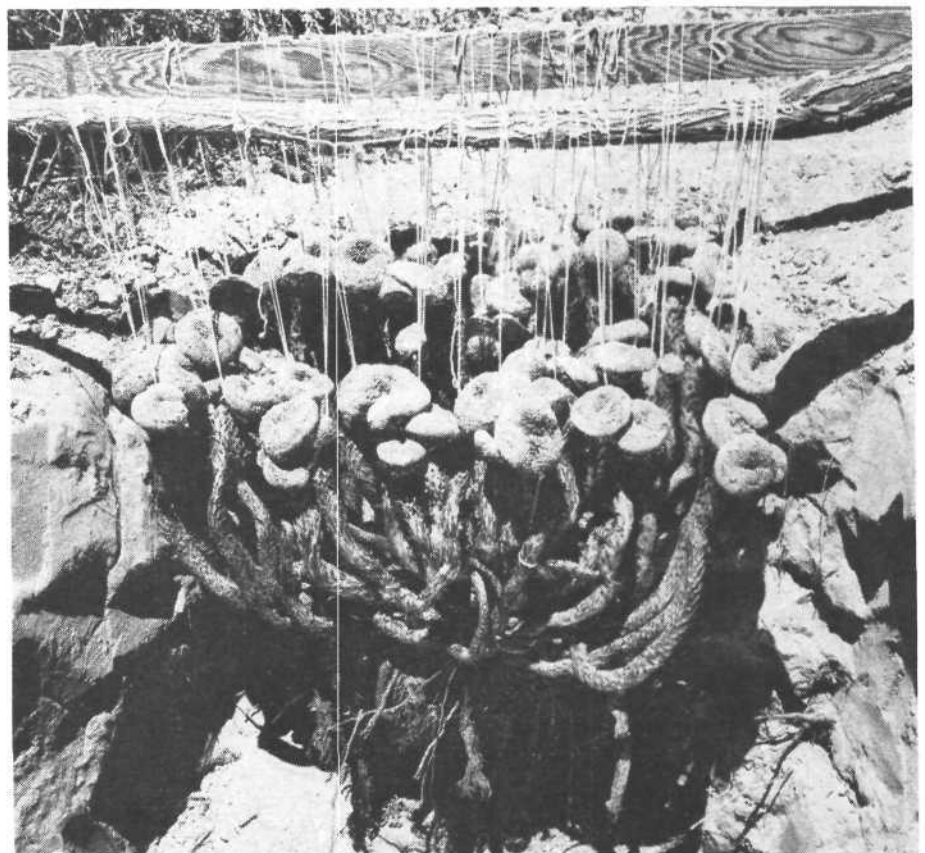
Both Col. Gray and Carl Lumholtz apparently found considerable quantities of this plant in Sonora following very dry seasons. Lumholtz states that the *Ammobroma* of the Pinacate region was available to the Indians as food the whole year. In speaking of the Sand Papagos he says:

"They found good edible plant food in the dunes, especially *Ammobroma sonorae*, the wonderful camotes which the Indians knew how to gather all the year round."

It has been my experience, as to the *Ammobroma* of the California dunes, that only an occasional plant may be found following a dry winter and also that both the head, above the surface, and the stem, below the surface, dry up soon after all moisture is gone. There may be some natural reason to account for *Ammobroma* being available in Sonora at all times but I think that is not true as to the California dunes.

Dr. Palmer found *Ammobroma* parasitic on *Franseria dumosa* and *Dalea* (or *Parosela*) *emoryi*. I have found it parasitic on *Coldenia plicata*, *Coldenia palmeri*, *Eriogonum deserticolum* and *Pluchea sericea* or common arrowweed.

One of the remarkable things about this rare parasite was our discovery in May, 1928, that it often outweighed the host plant and that, when moisture is available, the *Ammobroma* roots appear to dry up as soon as the moisture is gone. It was apparent that the parasite then continued its cycle of reproduction by using up the stored moisture and plant food in its fleshy stem which its own roots had been instrumental in collecting while moisture was available. It also seemed apparent that the *Ammobroma* had not, as to the many cases noted by me, over-taxed the host plant.



Above two pictures show a plant found away from its usual habitat in the dunes. The plant was growing near an irrigation ditch in Imperial Valley with arrowweed as its host, and an abundant water supply. When the roots were excavated, the heads were found to be so tender it was necessary to tie each one with a string to keep it from breaking off. The arrowweed host weighed 1¼ pounds, and the 106 *Ammobroma* stalks 46 pounds.



Ammobroma belongs in the family Lennoaceae. There are but two genera of this family represented in United States, *Pholisma* and *Ammobroma*. The above photograph is *Pholisma arenium*. It is also a parasite.

Walter T. Swingle, noted plant scientist, had told me where I might find *Ammobroma* in the sand dunes near the highway between Holtville, California, and Yuma, Arizona. M. French Gilman and myself, about 1928, found it there and took many samples for testing and for plant specimens. We found that when roasted on hot coals it has a flavor similar to a sweet potato.

Several years subsequent to this Dewey Moore and myself found *Ammobroma* parasitic on the root of the common arrowweed, *Pluchea sericea*, at a place where a large irrigation canal skirted into the sand dunes northeast of Calipatria, California. Here

the *Ammobroma* had plenty of moisture, therefore, the location was not typical of its natural habitat. In this un-natural location we found as many as 106 of the fleshy *Ammobroma* stems from a single attachment on the root of a small arrowweed. The host plant, including its root system, weighed 1¼ pounds while the *Ammobroma* parasite weighed 46 pounds. The behavior of this group of *Ammobroma*, away from its natural habitat, suggests several interesting possibilities worthy of being tested by some enterprising scientist.

If *Ammobroma* has anything like the food value claimed for it by the

Indians it might indicate that some sort of a sprinkling system could be devised for use in the sand dunes thus finding a way to produce revenue from this large area now worthless.

The plant knowledge of our Indians may have been crude and primitive but it is well for us to keep in mind that their discovery and first use gave us and the civilized world of today its corn, potatoes, beans, sweet potatoes, peanuts, squash, chocolate, pepper, tomatoes, avocados, pineapples, cocaine, quinine, tobacco and rubber. Perhaps we may be able some day to add *Ammobroma* to this highly important list.

TRUE OR FALSE

There are three ways to get acquainted with the Great American Desert. One is to travel—and that requires a lot of time and gasoline. A second way is to read books about the desert. The third way is to take the True or False test in *Desert Magazine* every month. For this monthly quiz covers a wide range of subjects—geography, history, natural sciences, literature, Indians and the general lore of the desert country. Twelve to 14 is a good score, 15 to 17 is excellent, 18 or over is super. Answers are on page 32.

- 1—Tarantulas, those great hairy spiders sometimes seen walking across the road ahead of your car, are deadly poisonous. True _____. False ____.
- 2—The Mormon colonization of Utah was started before the California Gold rush of 1849. True _____. False ____.
- 3—The Desert Tortoise is hatched from an egg. True _____. False ____.
- 4—A Kiva is an underground ceremonial chamber of some of the Pueblo Indian tribes. True _____. False ____.
- 5—There are islands in the Great Salt Lake. True _____. False ____.
- 6—Wickenburg, Arizona, is located on the bank of the Gila River. True _____. False ____.
- 7—The mines in Bingham Canyon, Utah, are noted chiefly for their gold production. True _____. False ____.
- 8—The state flower of Arizona is the sunflower. True _____. False ____.
- 9—The present townsite of Phoenix, Arizona, lies within the territory acquired from Mexico by the Gadsden Purchase. True _____. False ____.
- 10—One of the four states which meet at the common corner known as the "Four Corners" is New Mexico. True _____. False ____.
- 11—Tombstone, Arizona, is publicized as "the town too tough to die." True _____. False ____.
- 12—The Sangre de Cristo mountains are located mostly in New Mexico. True _____. False ____.
- 13—Adolph F. Bandelier's book *The Delight Makers*, is a story about the Navajo herdsmen of Arizona. True _____. False ____.
- 14—San Jacinto peak, at the south portal of San Geronio pass in Southern California, is higher than San Geronio peak, the north portal. True _____. False ____.
- 15—The capital of Nevada is Reno. True _____. False ____.
- 16—The Mormon battalion on its westward trek to California in 1847 crossed the Colorado River at Yuma, Arizona. True _____. False ____.
- 17—Mining is lawful within the Death Valley National Monument. True _____. False ____.
- 18—The place in Utah where the golden spike was driven in 1869 to mark the completion of the first transcontinental railroad is named Promontory. True _____. False ____.
- 19—The Cahuilla Indians of the Southern California desert were catching fish in Salton Sea in 1846 when General Kearny crossed the desert with his Army of the West. True _____. False ____.
- 20—Wildflower most commonly seen in blossom on the desert sand dunes is verbena. True _____. False ____.



The Jesuit fathers directed the Indian neophytes who worked the rich gold mines in the hills behind the mission.

Lost Treasure of Sonoyta . . .

Near the Arizona-Sonora border at Sonoyta are the crumbled ruins of the long-abandoned Jesuit mission of San Marcelo, founded by Father Kino in 1699 and destroyed in the bloody Papago revolt of 1751. Few people know the legend of the mission's buried treasure houses and rich gold mines; and many of the old-timers who have heard the tale are afraid to search too long in this "Country of the Devil." John Mitchell passes on to Desert Magazine readers a story of wealth and rebellion he heard from a dying Papago medicine man 35 years ago.

By JOHN D. MITCHELL

Illustration by Charles Keetsie Shirley, Navajo artist

THERE IS a tradition among the Papago Indians living around the ancient mines of Ajo and in the vast Santa Rosa country to the east, that, long before the great Indian uprising of 1751, their ancestors were neophytes at San Marcelo Mission at Sonoyta, Arizona. They worked the Jesuit mission's rich gold mines, located both north and south of what today is the border between Arizona and the Mexican state of Sonora.

Some believe that the rich mine reputed to lie to the north of the mission was located to the east of Gunsight Well in a long black sugarloaf

mountain, while others insist that it lay on the plains east of Table Mountain. And, despite indisputable proof in the form of old smelting furnaces, slag dumps, arrastres and tailing piles, caved shafts and tunnels in the hills, still others claim that the padres never operated any mines at all.

It is doubtful whether Father Eusebio Francisco Kino, the Jesuit "Apostle to the Pimas," was ever directly interested in mining. However, those who came after him and assisted in building and operating the brotherhood's long chain of missions in what is now Arizona and Sonora, are known

to have carried on rather extensive mining operations considering the difficulties under which they had to work. In their zeal to lay up riches—material as well as spiritual—the Spanish priests often laid a heavy hand on their Indian neophytes.

Sonoyta was one of the most prosperous of the Jesuit missions, and its Padre Superior prospered from his mining, agricultural and stock raising operations. Old and large of girth, he spent most of his time reading his breviary or dozing in the shade of the vines that grew easily in the rich soil of the little valley, watered by a crystal stream from a nearby spring.

All the work of the mission was done by the Indians. The women tended the garden, fruit trees and vines and ground corn and wheat to make tortillas. They grumbled that it took all their time to feed the hungry men who worked in the nearby fields and in the mines.

So, while the padre prospered and hoarded gold and silver, the Indians



secretly planned a revolution that would free them from the white man's religion and the padres' oppression. In 1751, this dissatisfaction, felt throughout Pimeria, culminated in the second revolt of the Pima and Papago tribes. Led by Luis of Saric, Sonora, the revolt broke out on November 21, 1751. Three martyrs—Fathers Francisco Xavier Saeta, Enrique Ruen and Tomas Rollo—tried to pacify the Indians and were slain. Every Spaniard who did not flee for his life was killed. More than a hundred are said to have been slain. Smelting furnaces were destroyed, and all the mines along what is now the U. S.-Mexican border were filled in.

At Sonoyta, the old padre and two priests, who happened to be visiting the mission at the time, were killed and thrown into an underground treasure vault, and the beautiful mission was razed. Bac and Guevavi also were plundered and abandoned.

The Indians returned to their pueblos in 1754, signifying their willingness to live peaceably once again. Backed by Spanish troops, the priests returned the following year to the Santa Cruz valley and northern Sonora, but only for a short time. The 1767 edict of King Carlos III expelled all members of the Society of Jesus from Spain and all its possessions.

The mission at Sonoyta was never rebuilt, and for 166 years no word was spoken of the location of its mines or of the gold and silver stored in its hidden treasure vaults. The old Papagos guard their secrets well.

In 1917, when old "Dr. Juan," a 128-year-old Papago medicine man, lay on his death bed at Quitobaquito, the writer and his good Papago friend, Luis Ortega, who was brought up on the old Cipriano Ortega ranch on which the ruins of the Sonoyta Mission stand, happened to be in the vicinity. During a conversation regarding the

lost mission treasure, the old medicine man suddenly sat upright on his sheepskin pallet and with a stick drew a sketch of Table Mountain in the sand beside his bed. With outstretched arm, palm down, to indicate its nearness to the mountain, the old medicine man said: "*Alli en un arroyo esta la mina del Padre. Buscala es muy rico.*" — "Right over there in the arroyo is the Padre mine. Look for it. It is very rich."

People and events move slowly on the northern fringe of the land of mañana, and it has taken the writer 34 years to get around to recording this story from the notes set down at the bedside of the dying Papago. In fact, the tale was almost forgotten until two years ago, when a strange course of events recalled it to memory.

A young deer hunter from the Valley of the Sun was out one day on the desert east of Table Mountain. Returning home, he decided, instead of retracing his steps back the way he had come, to cut across the desert to the road running west from Casa Grande to Gila Bend, thence on to Ajo.

Crossing a wide sandy wash in which grew a jungle of mesquite, the hunter suddenly came upon the caved workings of an old mine. The large dumps indicated that a great deal of work had been done there. On one side of the arroyo was an assortment of weathered bronze mining machinery. Mesquite trees had grown up through some of the large cog wheels and other openings and had forced some of the pieces from their original bases. The machinery was made in small sections held together with bronze or copper pins. Evidently it had been constructed in sections, to be packed to the mine and assembled there. Fancy designs and letters on some of the machinery indicated that it had been manufactured in Spain. The very fact that the machinery had been shipped all the way from Spain around the Horn to the West Coast, then packed to the mine over difficult trails, would indicate that the mine was a rich one. Perhaps the old medicine man was right.

The sound of the mission bells at Sonoyta has long since passed away. No more do they ring out, chiming in tune to call the Indian neophytes to early morning prayer. Road maps do not urge the tourist to its ruins, and there are no ancient charts or secret map scrolls—so essential in fiction—to lead the treasure hunter to its rich mines and underground treasure rooms or to the lost bonanza near Table Mountain.

There is only a legend — and the word of a dying Papago medicine man

and a young deer hunter, to direct the fortune seeker to the lost treasures of Sonoyta.

Hard Rock Shorty of Death Valley



Hard Rock Shorty settled farther back on his chair on the lean-to porch at the Inferno store, and refilled his hat so the sunbeam through the hole in the brim missed his nose.

A half dozen tourists were loitering in the shade waiting while the mechanic repaired a hole in the radiator of their car. They had discovered that Shorty liked to tell about his experiences in Death Valley, and kept prodding him for more yarns.

"Guess I'd better tell you about Pisgah Bill's goat," Hard Rock was saying. "Happened back in '17 when Bill wuz off on one of his prospectin' trips up in the Funeral Mountains.

"When he got back he discovered one of his mules was gone, and the wagon too. So Bill saddled up his ridin' hoss and headed back to town to git the sheriff. Ol' Law an' Order come out, and' jest as he wuz lookin' things over, one o' them Hankins kids which lived at Inferno with their pa and ma in them days came ridin' past in a toy wagon pulled by a long-eared goat.

"Where'd yu git that goat and wagon?" yelled Pisgah.

"Why they're yourn!" says the kid, an' jest then the old goat stuck its head back an' hee-hawed jest like a derned mule.

"Yu know, that kid'd watered that mule with a bucket o' that alum water Pisgah kept in the barn fer settin' wagon tires. An' the only reason he hadn't shrunk up both o' them mules wuz that he couldn't ketch the other one.

"Pisgah was mad on account he didn't know how to stretch that mule out again, but after that he never kept none o' that alum water around the place. Said he wuz afraid the kid might put it in the tank that the hired man wuz using fer a shower bath."

Here and There on the Desert

ARIZONA

May Lift Scorpion Mail Taboo . . .

TEMPE — Congress and the post office department may make it easier for Dr. Herbert L. Stahnke to get the 10,000 scorpions he needs for his anti-venom serum making operations at Arizona State College. The serum is obtained by "milking" live scorpions of the two lethal species found in the state. It takes great numbers of scorpions to produce the serum, and specimens must reach the laboratories in good condition. Mail is the best transportation method, but postal regulations prohibit sending poisonous creatures like rattlesnakes, scorpions and black widow spiders. A special law has been introduced in Congress by Senator Barry Goldwater of Arizona which would lift the taboo on scorpions.—*Arizona Republic*.

• • •

Untutored Soldier . . .

WINDOW ROCK — Navajo tribal officials are seeking the release from military service of an unschooled Navajo youth they say went through five months army training without understanding a word of English. Ralph Descheny, 20, of Rock Point, Arizona, who has never attended school and doesn't understand English, said he just "did like the others" when commands were given. Descheny appealed to Sam Ahkeah, head of the Navajo Council, to aid in his release when his parents became ill and he was needed to operate their farm. Ahkeah said he hesitated to write concerning the case "because I do not want anyone to think that the Navajos are slackers." He pointed out that 4000 members of the tribe served in World War II. — *Arizona Republic*.

• • •

Priest Urges Indian Wardship . . .

SAFFORD — The Indians are better off under federal guidance than under state control, believes Father Bonaventure Oblasser, pioneer Franciscan missionary among Southwest Indian tribes. "The real hope of Arizona's Indians lies in development of their own land and resources," he told a Safford audience recently. Father Bonaventure urged development of schools, hospitals and economic pursuits on the reservation and pointed out the strides being made in these directions by the San Carlos Apaches, on whose reservation he works. — *Graham County Guardian*.

Territorial Debt Erased . . .

TOMBSTONE — In 1892-93, Tombstone city fathers had trouble making ends meet; so they borrowed \$12,000 from the state. In January, 1953, 60 years later, part of the debt still remained. Representative Fred Dove of Tombstone suggested this territorial debt be erased from the record books and, by passing Dove's bill to that effect, the state legislature agreed, appropriating \$7,146.21 to cancel the debt. Actually, Dove pointed out, the amount represented accrued interest from a bonded indebtedness dating back to the early '80s.—*Tombstone Epitaph*.

• • •

To Improve Canyon Campsites . . .

GRAND CANYON — Development of the North Rim camp ground is chief improvement planned at Grand Canyon National Park in 1954, announced Superintendent H. C. Bryant. A \$14,000 program of providing roads, separate campsites, fireplaces and other needed facilities at the camp ground is provided for in the 1954 budget. Other items for which funds are asked include construction of a new airport, glassing in of Yavapai Observation Station and various road improvement projects.—*Arizona Republic*.

• • •

GRAND CANYON — Former Senator Ralph Henry Cameron of Arizona died in Washington January 29 at the age of 89. He was buried on the North Rim of the Grand Canyon, into which, many years ago, he built the now famous Bright Angel Trail. Cameron was credited with obtaining statehood for Arizona in 1912.

Apaches Invite Campers . . .

FORT APACHE — Indians of the Fort Apache reservation have made great strides in developing recreational facilities to attract visitors to their reservation. Through its White Mountain Recreation Enterprise—the reservation name for its park development agency—the Fort Apache tribe since last May has cleaned up 62 camps, posted 450 signs, cleaned bottles and cans out of Blue Lake, provided 11 garbage pits at campsites, constructed and placed 115 picnic tables and 15 toilets. The Indians also have planted 300 huckleberry plants and, if they thrive, will set out 50,000 more, as well as raspberries and other plants. Funds derived from the sale of fishing permits are financing the work.—*Arizona Republic*.

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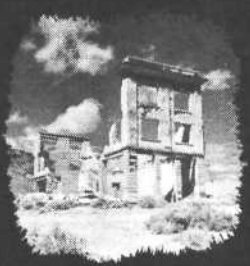
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CALIFORNIA

Manly's Death Valley Route . . .

DEATH VALLEY — Beneath the pasted back flap of a rain-soaked book on Death Valley written by William Lewis Manly, a penciled map has been found which may add considerably to the knowledge of early Death Valley pioneer routes. Manly was the famous scout who led the Bennett-Arcane party out of Salt Lake City seeking a short-cut route to the gold fields of California. The map, drawn on wrapping paper by Manly himself, was discovered by Ardis M. Walker, immediate past president of the Death Valley 49ers, in a book given him by a neighbor, who found it in his barn. It shows the exact route followed by the Bennett-Arcane party from Salt Lake City through the valley and finally to San Fernando Mission, California.—*Inyo Register*.

Cancel Desert Cavalcade . . .

CALEXICO—Lack of interest and a deficit of \$1000 from the 1952 celebration were given as reasons for the suspension of the 1953 International Desert Cavalcade. Originally scheduled as a four-day event for April 9-12, the Cavalcade has been held every year since 1940, excepting the war years. According to Les Dowe, president of the Cavalcade Association, there is a possibility that the event will be resumed at a future date.

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Hunt for Giant Condor Birds . . .

MOJAVE — The giant California Condor, largest of North American birds, with a wing spread of from 10 to 11 feet, is the object of a controversial bird hunt now underway in California. Mrs. Belle Benchley of San Diego Zoo is attempting to trap a male and female condor for breeding purposes in the gigantic condor house of the zoo. She has been given permission of the State Fish and Game Commission, but several groups, notably the Audubon Society, the Sierra Club and certain members of the Cooper Club, leading ornithological organization, bitterly oppose the project.

The actual capture is being attempted by Lewis Wayne Walker, bird photographer and magazine writer, who hides in a carrion-baited pit in condor country, hoping to seize a bird as it comes to feed. Infinite caution is required, as condors are extremely wary, and a trap cannot be used for fear of injuring the bird.

Opponents of the zoo project contend that the condors will have a better chance of survival if they are left alone in the wilds. Supporters of Mrs. Benchley declare that a scientific attempt, under proper conditions of captivity, to perpetuate the birds is worth while. Most estimates place the number of condors alive in California at around 60, with approximately 10 nesting pairs.

Choose Colorado River Sites . . .

BLYTHE — Two sites along the Colorado River—a 2700-acre tract at Imperial Dam and a 22,000-acre tract at 4-S ranch above Picacho — have been selected by the California Division of Beaches and Parks for development as state parks. Facilities will include a filter water supply, rest rooms, picnic tables, boat piers, campsites and parking space.

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For Camp Ground Improvement . . .

BISHOP — The neglected camp grounds of Inyo National Forest may be improved, if a bill now before Congress is passed. The proposed Baker bill would provide ten percent of Forest Service receipts for sanitation, wildlife habitat and development purposes of the national forests. California forests receive \$60,000 for recreational use under the present allocation; the Baker bill might raise this figure to \$1,000,000. Forest camp grounds in the Inyo-Mono area at present are so short of funds that voluntary donations have been necessary to keep them open to the public.—*Inyo Register*.

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San Luis Loses Bridge . . .

CALEXICO — Once again it has become very difficult for the people of San Luis, Sonora, Mexico, to journey to Mexicali in Baja California, just across the border from Calexico. Recently the Colorado River demolished half of the bridge that joined the two Mexican states after it had been in operation only three months. The extremely bad quality of construction has been blamed for the bridge failure. To solve the bottleneck at the river crossing, San Luis requested authorization from the Sonora governor to buy another ferry boat to join the old one in transporting cars and trucks from shore to shore. — *Yuma Daily Sun*.

NEVADA

Storage Offsets Low Runoff . . .

BOULDER CITY — Although the Colorado River runoff this spring might fall 60 percent under last year's record, there is enough holdover storage in Lake Mead to assure adequate water for all irrigation and domestic uses and power obligations during the coming year, announced E. G. Nielsen, director of the Bureau of Reclamation's Region No. 3. The melted snow and ice from the Rockies that will flow down the river into Lake Mead April through July is expected to be only 5,600,000 acre-feet, compared with last year's record high of over 14,000,000 acre-feet and a 30-year average of 8,900,000 acre-feet.

Bighorn Sheep Hunt . . .

CARSON CITY—Nevada hunters will be given another chance at the Bighorns this year, with a 26-day season planned in Lincoln and Clark counties April 5 to 30. Sixty-five tags will be issued on a drawing basis for Nevada residents only. Hunters who drew tags last year will not be eligible for this year's hunt.—*Territorial Enterprise*.

Sheep Quarantine . . .

ELY — Sheep being shipped from Nevada to California must be inspected for scabies before crossing the border, the Department of Agriculture announced after the disease broke out in California. Sheep can only be shipped after special permits have been issued by the Division of Animal Industry, California Department of Agriculture, Sacramento. Permits are issued by state or federal inspectors to certify freedom from scabies. — *Goldfield News*.

Tourists Flock to Lake Mead . . .

BOULDER CITY—Sixteen million tourists, an average of slightly more than one million per year, have visited the Lake Mead Recreation Area since the National Park Service first took over in 1937. Largest tourist travel during any one month was in August, 1952, when a total of 307,298 visitors were counted at the various checking stations. Excepting the war years, travel to Lake Mead has shown a constant and steady increase of 252.58 percent.—*Las Vegas Review-Journal*.

Bill Urges Dam Construction . . .

CARSON CITY — In a resolution introduced before the Nevada State Legislature, Assemblyman J. M. Higgins urged Congress to appropriate funds immediately for the Bridge Canyon dam and power development on the upper Colorado River. The measure claimed the financing of the multi-million-dollar project was being held up by the Arizona-California water dispute. The Southwestern states are in urgent need of additional water and power facilities and further delay of the project will have dire consequences, Higgins said. — *Las Vegas Review-Journal*.

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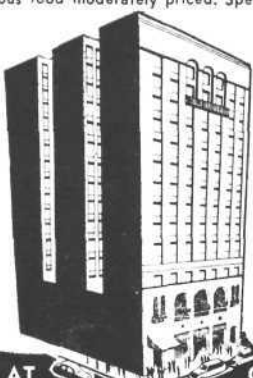
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Stockmen Reassured . . .

HUMBOLDT—"In spite of the dry warm winter, there is little cause for alarm concerning moisture and vegetation conditions," Nevada stockmen were told at a meeting of the Santa Rosa Livestock Growers Association in Paradise Valley. A. R. Torgerson, supervisor of Humboldt National Forest, reported snow and water measurements indicate average range conditions.—*Humboldt Star*.

NEW MEXICO

80 Percent Normal Agua . . .

SANTA FE — A probable water flow of about 80 percent of normal is forecast for the Rio Grande River, according to federal-state cooperative snow and rain reports. Soil moisture conditions are reported good in the Taos area but dry at valley elevations along the river. As of February 1, snow accumulation was slightly less than normal.—*New Mexican*.

Navajos Ask Good Grazing . . .

COUNSELORS—A second petition is being prepared for submission to Interior Secretary Douglas McKay asking more equitable grazing regulations for non-reservation Navajo stockmen. Nearly 300 Navajo stockmen and their families decided to draw up the new petition after failing to learn the whereabouts of an original plea bearing 1400 thumbmarks. The Indians seek an increase in the number of sheep which a family may keep before having to pay grazing fees to the government.—*New Mexican*.

Mexico Okays Bracero Plan . . .

SANTA FE — Foreign Minister Luis Padilla Nervo of Mexico announced his country has agreed to continue sending migrant agricultural workers to harvest crops during 1953. He did not reveal how many Mexican farm hands will be shipped across the border this year, but Southwest newspapers estimated 250,000 *braceros* will be made available for American harvests. Both Mexico and the U. S. have agreed to redouble vigilance to prevent "wetbacks" from crossing the frontier illegally in search of farm jobs.—*New Mexican*.

Folsom Era Beast Found . . .

ALBUQUERQUE — Indications of how prehistoric humans carved a cave-man's rib roast from a slain mammoth have been found on a ranch near Estancia, New Mexico. Officials at the University of New Mexico say a skeleton turned up by a plow proved to be that of a huge beast slain by Folsom hunters about 10,000 years ago. It bore indications that a 300-pound rib roast had been hacked out by some flint instrument.—*New Mexican*.

Illegal Water in Hobbs . . .

HOBBS—The city of Hobbs is publishing legal notices that it intends to drill water wells that were dug as much as 23 years ago. The notices, when published three times, will straighten out a legal entanglement which for a while made every drink of city water illegal. Hobbs' water dilemma dates back to 1930 when the city's first water wells were dug—before the state slapped regulations on drilling. Seven wells, drilled by a private company, were sold to the city but never legally registered. In fact, out of 11 wells in Hobbs, only 3 were legal, and since they shared a common reservoir, all the water was unlawful. Arizona recently cracked down on its water basin regulations, and Hobbs hurriedly published its belated drilling notices to get back within the law.

Find Dinosaur Remains . . .

TUCUMCARI — Calcified fragments of a dinosaur, believed to be at least 38,000,000 years old, were discovered by two junior high school science teachers 14 miles west of here. Leon Cooper and Clifford Mills have removed a leg bone four and a half feet long and 16 inches wide, weighing more than 200 pounds. They believe it to be from a species of dinosaur that grew to a length of from 67 to 90 feet and weighed up to 35 tons. —*New Mexican*.

Solons Inspect Museum Site . . .

TAOS—Members of the New Mexico State Legislature recently inspected Thorne House in Taos to secure information in connection with a state bill providing for purchase of the property for museum purposes. The house is adjacent to Kit Carson Memorial Park and presumably would be used to house memorabilia of early New Mexican history.—*El Crepusculo*.

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Public Health for Indians . . .

SALT LAKE CITY—In an effort to bring the benefits of public health practices to Utah Indians, the state board of health is negotiating a contract with the U. S. Indian Service which would authorize the board to work on the reservation. One of the main effects of the contract, said Dr. George A. Spendlove, state health commissioner, would be to permit the department to inoculate Indian children as well as white children under school inoculation programs. Also, help could be given in setting up sanitation programs, laboratory services would be available for the Indians, and disease control would be facilitated.—*Salt Lake Tribune*.

TRUE OR FALSE ANSWERS

Questions are on page 24

- 1—False. Tarantulas are comparatively harmless.
- 2—True. Mormons began their trek westward in 1847.
- 3—True. 4—True. 5—True.
- 6—False. Wickenburg is on the Hassayampa River.
- 7—False. Bingham Canyon is a copper producer mainly.
- 8—False. State flower of Arizona is Saguaro.
- 9—False. Northern boundary of the Gadsden Purchase was the Gila River.
- 10—True. 11—True. 12—True.
- 13—False. Bandelier's book is about the Pueblo Indians.
- 14—False. San Geronio is the higher.
- 15—False. Carson City is Nevada's capital.
- 16—True. 17—True. 18—True.
- 19—False. Salton Sea was not formed until 1905-6-7.
- 20—True.



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Plan Highway Into Utah . . .

CEDAR CITY—The long-talked-of highway across the Arizona strip into Utah was given a boost recently by the Arizona State Legislature. Robert Morrow introduced a memorial urging the National Parks Service, Bureau of Indian Affairs, Bureau of Land Management and Bureau of Public Roads to cooperate with Arizona and Utah in building the highway. The proposed arterial would connect Fedonia, Arizona, and Hurricane, Utah, crossing parts of the Kaibab Indian Reservation and Pipe Springs National Monument.—*Salt Lake Tribune*.

Urges Open Border . . .

SALT LAKE CITY—Utah Governor J. Bracken Lee has endorsed a proposed Utah legislative resolution calling on Arizona and California to end border inspection of tourist cars. Lee noted that the inspections are de-

signed to keep disease bearing insects and produce out of the two states; but, he insisted, present methods are ineffective since they are confined to highway ports of entry and not extended to air terminals and railroad facilities. Inspection "irritates tourists and hampers Western travel," the Utah governor contends.

Range Conditions Improve . . .

SALT LAKE CITY—Measurable improvement in Utah's winter ranges was noted during January and February by the U. S. Bureau of Agricultural Economists, and the condition of cattle and sheep was reported to be good. During February, ranges were 83 percent of normal, up ten points over range conditions a year ago. Precipitation ranged from spotted to above normal, and temperatures were warm enough to permit growth of feed. —*Salt Lake Tribune*.

Water Supply Outlook, Already Gloomy, Darkened by January Run-off Reports

Seasonal water supply totals for the Colorado River Basin still are far below normal, according to precipitation and snow run-off reports compiled by the U. S. Weather Bureau February 1. January weather in most areas reduced rather than increased this season's potential water supply. Precipitation during the month was extremely light, averaging as low as 20 percent of normal, and temperatures also were abnormal, in many instances setting all-time high records. Drying winds did much to deplete soil moisture, particularly at elevations below 8000 feet.

Streamflow forecasts for the various watersheds are as follows:

Colorado River above Cisco—The outlook remains unfavorable for most of the area. Water-year flows of only 51 to 66 percent of the 1941-50 average may be expected for the Gunnison and Dolores River basins, the Granby

area, Uncompahgre River and Collbran Creek. Elsewhere prospects are somewhat brighter, with median forecasts calling for run-offs ranging from 72 to 88 percent of the 10-year average.

Green River Basin—Run-offs of from 73 to 88 percent of normal are forecast for Utah tributaries of the Green and White River basins.

San Juan River Basin—The water outlook for the San Juan basin has changed little since January 1. Streamflows still are expected to range from 60 to 75 percent of the 10-year average.

Little Colorado River Basin—Forecasts fell to from 21 to 30 percent below January 1 readings. Current outlook is for flows of 75 percent of normal for the tributaries near Winslow, and for only 38 percent of average near Woodruff.

Gila River Basin—The water supply outlook for the Gila River basin above the San Carlos Reservoir is very poor, with median forecasts calling for November-June flows of only 21 to 30 percent of the 10-year average. For this portion of the basin to realize near-average flows, precipitation from February through June would have to equal or exceed the maximum of record. Run-off of only 54 percent of average is expected for the Verde River Basin. Prospects for Tonto Creek and Salt River basins are slightly better, and flows are expected to be approximately 70 percent of normal.

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Fremont, Utah

This month's Life on the Desert story was told to Ernest K. Allen nearly 25 years ago by an old man named Huff, whom he had met in the agricultural implement department of the old E. M. Cope Commercial Company in Redlands, now the Imperial Hardware Company.

The old man had mentioned to Allen that he had once been driver on one of the old 20-mule borax teams in Death Valley. Interested, Allen asked him to lunch and heard the old-timer's story. They had several other talks later and, prodded by the younger man's questions, Huff told many of his early-day experiences. The old-timer was past 70 then, and, although he soon lost track of him, Allen doubts whether he is alive today.

Allen was born in Oakland, California, in 1880, the son of pioneer California settlers. In the early '80s, F. M. "Borax" Smith built a large home in Oakland, and Allen remembers walks with his father to the Smith estate, to see the herd of llamas Borax had imported from the Andes Mountains in South America, where he had extensive mining interests.

"When I was a small boy," Allen recalls, "the family made a trip by train from Oakland to Los Angeles. When the train stopped at Mojave for lunch, my father called our attention to the desert and explained to us that Mojave was the destination of Mr. Smith's 20-mule teams, hauling borax from a far-away place called Death Valley. He told us what he knew about Death Valley, which was little enough but sufficient to make a lasting impression on my mind."

Allen and his wife now make their home in Pasadena, California. They also have a place at Twentynine Palms and, since he has retired from active business, spend more and more time on the desert.

E. C. Thoroman, author of "There's Still Color in the Old Placer Fields" did his first prospecting at the old Custer Mine, near Sunbeam Dam, Idaho, in 1933. But it wasn't until he moved to Arizona in 1947 that he seriously took up gold panning as a hobby.

Thoroman was born in Garnett, Kansas, and holds A.B. and M.A. degrees from the University of Kansas. He worked as a field director for the American National Red Cross from 1942 to 1946, then transferred

to psychiatric social work at the United States Disciplinary Barracks at Fort Leavenworth, Kansas, after the war.

Now with the psychology department at Phoenix College, Thoroman is in charge of the college's testing and placement service. He also operates a personnel testing service as a private business, offering vocational advisement and personnel selection for business and industry.

Thoroman's wife and three children like to accompany him on his hunting, prospecting and rockhounding trips.

• • •

Franklin A. Thackery, author of "Sand Food of the Papagos," is well qualified to write of the ethnobotany

of Southwest Indian tribes. He was in charge of the U. S. Experimental Date Garden near Indio, California, from 1922 to 1940 and, prior to that, was connected with the field service of the Bureau of Indian Affairs. "One way or another," he writes, "I have had about 60 years' contact with the American Indians and have made close study of the plant foods and products discovered and first used by the Indians."

His partner in the Sand Food story in this issue, Photographer Dewey Moore, has been a research worker of the Bureau of Plant Industry, U. S. Department of Agriculture, for many years. He now is stationed at the Rubidoux Federal Station in Riverside, California.

PRIZE ANNOUNCEMENT

For True Desert Experiences

So popular has been *Desert Magazine's* Life-on-the-Desert series of stories which have been in nearly every issue during the last year, the editorial staff has announced another story contest in 1953.

You do not have to be a professional writer to enter this contest. The only requirement is that the story submitted to *Desert Magazine* be a true experience, either of your own, or one with which you are personally familiar.

For the best story of from 1200 to 1500 words submitted by May 1, an award of \$25.00 will be made. Each other contestant whose manuscript is accepted for publication will receive a \$15.00 award. Entries will be judged on the basis of story content and writing style.

The story must relate a true experience, preferably of the writer—no yarns or tall tales or heresay will qualify. The experience may involve danger while lost on the desert, an adventure while living or traveling on the desert or in Indian country, while homesteading, rockhunting or prospecting. It may be the meeting of an unusual character, revealing a phase of human nature or a distinct way of life. It may recall "good old days" in the mining camps or frontier towns. Perhaps it will contain a lesson on desert wildlife or plants or desert living.

The contest is open to amateur and professional writers alike, but those who plan to submit manuscripts should carefully observe the following rules:

All manuscripts must be typewritten, on one side of the page only.

Entries should be addressed to Editor, *Desert Magazine*, Palm Desert, California, and must reach this office by May 1, 1953, to qualify for the awards.

If good sharp 5x7 or larger pictures are available, an extra \$3.00 will be paid for each photograph accepted. Pictures are not essential, however.

Writers must be prepared to supply confirmation as to the authenticity of their stories. Only true experiences are wanted.

All stories must be essentially of the desert, and the scene is limited to Arizona, Nevada, Utah, New Mexico and the desert area of California.

True names of those involved must be given, although with the knowledge of the judges, fictitious names may be substituted in special cases where there is reflection on personal character.

If the story has appeared previously in print, this fact and the time and name of the medium in which it appeared should be given.

All readers of *Desert Magazine* are invited to submit manuscripts. Unaccepted manuscripts will be returned if accompanied by return postage.

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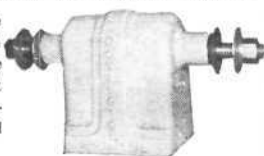
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"MEET ME IN ST. LOUIS" THEME FOR '53 CONVENTION

Plans for the 1953 "Meet Me in St. Louis" convention of the Midwest Federation of Mineralogical and Geological Societies occupied federation officers at a recent board meeting. The convention will be held June 26-28 at St. Louis University High School, 4970 Oakland Avenue, St. Louis, Missouri.

Ken Gibbons, convention chairman, has planned a well-rounded schedule of activities for visitors. Included are a banquet, outstanding speakers and a two-day post-convention field trip to interesting places in the St. Louis area. Gibbons also suggests that visitors new to St. Louis take a boat trip on the Mississippi River, see old-fashioned melodrama on the Show-boat on the waterfront, visit the outdoor Municipal Opera and the St. Louis Zoo. Tickets for these events may be reserved by writing Miss Teddy Kratz, 2742 Meramac Street, or Mrs. Jean Strobe, 3529 Lafayette Avenue, both in St. Louis. These committee members also will answer housing inquiries.

Co-chairmen of the committee for commercial exhibits are W. H. Vesper, Jr., 109 Gray Avenue, Webster Groves 19, Missouri, and William Neukum, 1012 Kuhs Place, St. Louis. Lyndall Grosch is handling requests for non-commercial exhibit space.

SOUTHWEST MINERALOGISTS' SHOW IN L.A. APRIL 25, 26

Louis D. Sears, display chairman, announces he has some fine exhibits lined up for the Southwest Mineralogists' 16th Annual Show April 25 and 26 in Los Angeles, California. The show again will be held at the South Ebell Club, 7101 South Menlo Avenue, Los Angeles.

SEVENTH ANNUAL SHOW FOR ORANGE BELT GROUP

At a January meeting in San Bernardino, California, directors of Orange Belt Mineralogical Society set the dates for the society's seventh annual show. They chose October 24 and 25. Jess Wait was named show chairman.

SOCIETY PLANS SHOW AT ORANGE COUNTY FAIR

Again this year, the Orange Coast Mineral and Lapidary Society will hold its annual show in conjunction with the Orange County Fair. Dates are August 11 through 16, and exhibits will be arranged in two large buildings on the fairgrounds near Costa Mesa, California. Gem show chairman is Carl C. Cowles; inquiries regarding display space should be directed to him, 310 North Main Street, Post Office Box 202, Santa Ana, California. Cowles was one of the judges of gem and mineral exhibits at the Riverside County Fair in Indio this year.

PLAZA PARK, BRAWLEY TO BE SCENE OF SHOW

Brawley Gem and Mineral Society's third annual rock show will be held in that California city's Plaza Park May 1 to 3. Besides exhibits and trading tables, the show will feature a field trip to the petrified wood, wonderstone and geothite crystal areas near Mexicali, in Mexico across the border from Calexico, California.

MINERAL SHOW PLANNED AT HEMET FARMERS FAIR

Hemet-San Jacinto Rockhound Club, Southern California, will hold its sixth annual gem and mineral show August 26-30 at the Hemet Fairgrounds. The show is being held in conjunction with the Hemet Farmers Fair.

Three color movies: "Birth of an Oil Field," "Ten Thousand Feet Deep," and "Man Made Canyons" were borrowed from the University of California by Northern California Mineral Society for a club program in San Francisco.

Last Chance Canyon was their destination when Delvers Gem and Mineral Society members left Downey, California, on the first field trip of 1953. Good specimens of petrified wood, palm and jasper were found, as well as a few geodes and some petrified roots.

SAN MATEO'S FOURTH EXHIBIT SET MAY 9, 10

Fourth annual exhibit of the Gem and Mineral Society of San Mateo County, California, will be held May 9 and 10 at the San Mateo County Fair and Festival Building, 2501 Pacific Boulevard, San Mateo.

Dick Carpenter arranged a return trip to Guadalupe Mines for the Gem and Mineral Society of San Mateo County, California. The group had visited the site in July and found good myrickite specimens.

Charles Cowan showed his pictures of plume agate and petrified wood to fellow members of Everett Rock and Gem Club, Everett, Washington. Displays for the evening featured these minerals.

Grant Ostergard of Glendale spoke on "Gem Hunting in Mexico" at a meeting of Delvers Gem and Mineral Society, Downey, California.

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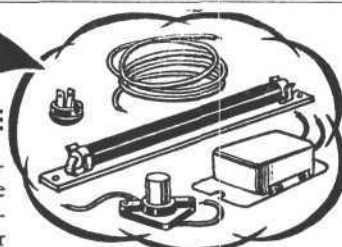
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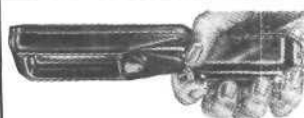
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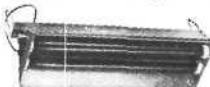
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More New Slates Announced By Gem and Mineral Societies

Royal Gould, meteorologist in the test department of the Naval Ordnance Training Station at China Lake, California, was installed as president of the station's gem and mineral society at a February banquet. Other new officers are William Finnegan, vice-president; Alvin J. Cohen, secretary, and George Shriner, treasurer. Thomas Chapman, Armin Weibke and Sewell Lofinck are directors.

C. A. Rigney has taken office as new president of Fort Worth Mineral Club, Fort Worth, Texas. He will be assisted in club duties by C. J. Luke, first vice-president; Mrs. John Orr, second vice-president; E. W. Aiken, secretary, and Mrs. E. J. Walty, treasurer.

New officers of Old Baldy Lapidary Society, Pomona, California, are Leo D. Berner, president; John Brice, vice-president, and Joel O. Bowser, secretary.

Lee Weatherbie will head San Diego Lapidary Society, San Diego, California, in 1953. First vice-president is Fred Gruner; John White is second vice-president; Ada Harrison, treasurer, and Ruth Weatherbie, secretary.

Contra Costa Mineral Society, Walnut Creek, California, named the following slate at recent elections: Gene Hainlin, president; D. R. Jordan, vice-president; Mrs. W. J. Cunningham, secretary, and Robert Cooper, treasurer.

New officers of Sequoia Mineral Society, Parlier, California, are Mrs. Josephine Johnstone, president; Albert Dickey, vice-president; Mrs. Nellie Andersen, secretary; Mabel Andersen, treasurer, and William Wedel, federation director. On the 1953 board of directors are Mrs. Florence Chapin, Mrs. Sylvia Dial, Harry Hill and Ira Wooley.

George Winslow will wield the gavel this year for Sacramento Mineral Society, aided by Raulin Silveira, vice-president; Genevieve Colony, recording secretary; Ernest Pook, financial secretary; Luther Ford, treasurer; Laura Kreuger, librarian, and Elmer Lester, director.

New officers of San Gabriel Valley Lapidary Society, California, are Mrs. Mabel Cone, president; Charles Wearden, first vice-president; Mrs. C. E. Linderth, second vice-president; Mrs. Roy E. Haag, secretary, and Warren Dunbar, treasurer.

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At a February meeting at the University of Utah, the Mineralogical Society of Utah installed the following officers: Golden W. Robbins, president; J. J. Hays, first vice-president; Kenneth Tanner, second vice-president; Stewart Romney, secretary, and Mary Moorehead, treasurer.

Directing plans for the May 16-17 show of Glendale Lapidary and Gem Society is the group's new president, Gene Neuschwander. Elected with Neuschwander in recent balloting were Grant Ostergard, first vice-president; Oral Miller, second vice-president; Marie Carvin, secretary, and Roy Beirdneau, treasurer.

HOUSTON COLISEUM ANNEX RENTED FOR TEXAS SHOW

State Mineral Society of Texas and the Rocky Mountain Federation of Mineral Societies will have 87,000 square feet of space to work with for their 1953 show, opening May 1 in Houston, Texas. The groups have rented the annex to the Houston Coliseum for exhibits and dealer space. Show planners expect close to 10,000 visitors a day.

George Burnham brought his "Mineral Collecting in Africa" lecture to Shadow Mountain Gem and Mineral Society at a February meeting in Palm Desert, California. Burnham spent almost two years in Africa, collecting specimens to add to his mineral shop stock.

A caravan of 18 cars carried mineralogy division members of San Diego Mineral and Gem Society to the Kane graphite mine and Ingham pegmatite diggings in Mason Valley on a recent field trip. Many interesting specimens were found at both sites.

A small vial of gypsum sand from White Sands, New Mexico, was given each junior member of the Earth Science Club of Northern Illinois at a meeting which featured sand as a topic. The youngsters learned how sand is formed in Nature and how it is used. Simple experiments were conducted to analyze different types of sand.

A silent auction was held in January by Colorado Mineral Society. After bidding, the treasury was \$30.40 richer.

Archie Meiklejohn and Charles Maples will represent Los Angeles Lapidary Society in the Lapidary Association this year. Clarence Chittenden is alternate.

Long Beach Mineral and Gem Society now has a board of consultants to whom members may take mineral and lapidary problems. Mr. Mims is the expert in general lapidary, Joe Grimm handles sphere cutting questions, Mr. and Mrs. Gordon advise in faceting, and Jessie Hardman helps identify puzzling crystals and mineral specimens.

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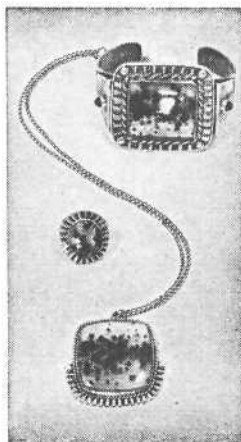
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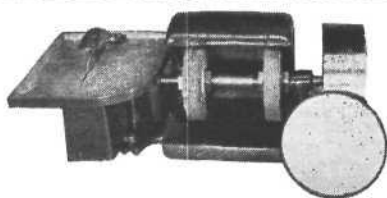


AMONG THE ROCK HUNTERS

Perfect weather made a field trip to the old Vulture mine in Arizona more enjoyable for members of the Mineralogical Society of Arizona. The Vulture's custodian, Claude Craker, operated a large dry-washer for the group; and Ben Humphreys, who with Charles Vanhook planned the trip, demonstrated dry panning. A tour of the mine followed. Afterwards, members searched for lead minerals at a prospect 12 miles southeast of the mine.

Mrs. K. E. McAfee of Norman, Oklahoma, discussed Indian jewelry at a meeting of the Oklahoma Mineral and Gem Society. She exhibited her private collection of turquoise stones and silver jewelry.

San Fernando Valley Mineral and Gem Society, North Hollywood, California, has a large Mineralight which it rents to members for a small fee. Several smaller mineralights are available to members without cost.



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Color pictures, restored and tinted from old historical photographs by Henry Bussian, took members of Marquette Geologists Association to the World's Columbian Exposition of 1892-93. Slides showed the exposition's various exhibit buildings and many lagoons and gardens as well as the famous electric fountains. The geologists also saw pictures of the fair's "moving sidewalk" and the Midway Plaisance, which housed the amusement area of the exposition, including a ferris wheel capable of carrying 2160 passengers, two hundred sixty-four feet high. The round trip took 20 minutes. After the exposition pictures, Bussian showed fluorescent slides.

"A Stained Glass Craftsman Looks at the Twentieth Century" was the topic Horace T. Judson chose for a talk before Southwest Mineralogists, Los Angeles, California. Judson is a nationally recognized authority on church symbolism, design, color and architecture, and is head of Judson Studios, designers and craftsmen in stained glass, mosaics, wood and precious metals.

Gem Mountain, near Rosamond, California, was scheduled for the February field trip of Pasadena Lapidary Society. Jasper, petrified wood and agate are found in the area.

Ray O. Lynn's banquet committee planned a party for February 28, to celebrate the 17th birthday of Sacramento Mineral Society, Sacramento, California. Members of neighboring gem and mineral societies were invited.

Little known areas of Utah's Wayne Wonderland were described by word and colored slides at a meeting of the Mineralogical Society of Southern California, Pasadena. Speaker was Worthen Jackson of Fremont, Utah. Pictures showed scenes in Capital Reef National Monument, Cathedral Valley and Goblin Valley.

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Diatoms starred in the sound-and-color motion picture presented by Tom Ludlow of Johns-Manville Company for the Earth Science Club of Northern Illinois. The film was about diatomaceous silica, or diatomite, which is a 5,000,000-year-old material composed of the fossil silica skeletons of diatoms, tiny aquatic animals.

San Antonio Rock and Lapidary Society packed picnic lunches and traveled to a wooded site near Calliham, Texas, to search for petrified wood, palm and agate.

"Hidden Treasures," a film produced by the Moody Institute of Science, was shown members of Hollywood Lapidary Society at a recent evening meeting. The movie reveals the beauty of miniatures in Nature as seen under a microscope.

Members entertained themselves at the February meeting of Nebraska Mineral and Gem Club, Omaha. They brought "bragging" pieces and trading material, and a few spoke on choice specimen finds.

San Diego Lapidary Society's first field trip of 1953 was to Coon Hollow in Southern California. Members searched the area for fire agate.

Seventh birthday of Chicago Rocks and Minerals Society was celebrated on St. Valentine's Day at a meeting held in the Green Briar Park Field House in Chicago. Mrs. Gertrude Lewis spoke on "Indian Jewelry of the Southwest." Guest of honor was the society's first president, George C. Anderson.

Questions about gems and minerals were featured in a "turning down" contest conducted as entertainment at a recent meeting of El Paso Mineral and Gem Society, El Paso, Texas. Geologist A. B. McAntire was referee.

Two open house tours were planned by Minnesota Mineral Club, inviting members to visit the lapidary workshops and view the collections of others. February 15, hosts and hostesses were the Ken Johnsons, Charles and Carrie Heller, Bill, Julia and Jean Bingham and the Ray Lullings, all of St. Paul, Minnesota. Invitations for February 21 were postmarked Minneapolis and were issued by Mr. and Mrs. Charles Smart, Lawrence and Martha Jensen, Jean and Bill Dahlberg and Halvor and Nathan Stuvetro.

When he learned of Mrs. Jo Unsell's interest and ability in solving invisible writing, secret codes and cryptograms, Editor H. L. Zollars of the *Voice of the El Paso Rockhounds* decided to test her skill. He sent her a blank piece of paper with an attached note: "Try to find the message." She was to phone him as soon as she solved the puzzle. Weeks passed. Finally Mrs. Unsell called to admit defeat. She had tried warming the paper, soaking it in lemon juice and vinegar—in fact, all the formulas she knew for bringing out invisible ink. Editor Zollars suggested she try her Mineralight. He had written the message with a fluorescent crayon, invisible until exposed to ultra-violet light.

Intricate crystal patterns of snowflakes and the beauty of hoarfrost were brought to members of East Bay Mineral Society, Oakland, California, in a color and sound movie on crystallization. Artificial growth of crystals under a microscope, comparison between mineral and organic matter, formation of skeleton crystals and many other interesting crystal facts were illustrated.



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Three members told of rockhunting trips at a recent meeting of Humboldt Gem and Mineral Society, Eureka, California. Ed Hutchison and George Morgan told of their trip to Monterey for jade; A. M. Porter gave highlights of a field trip to Albany, Oregon, and Ogden Scoville described mineral collecting in Mexico.

Members of Orange Belt Mineralogical Society were shocked to learn of the death of their president, Isaac V. Graham, and his wife, Alma, of San Bernardino in an automobile accident on Highway 99 January 9. The Grahams were on their way to the geode beds near Desert Center, California, when the accident occurred seven miles west of Indio. At a special election, George Tyler was chosen to fill the vacancy left by the death of Graham. Mary Lue Tyler assumed the office of her husband, former treasurer.

During winter, storms lash the Oregon coast, shifting beach pebbles and sand and uncovering agates which lie under sand most of the year. Tacoma Agate Club field trip scouts calculated tides would be low enough for collecting over the Washington's birthday holiday, and the club planned an overnight trip that week-end. Milt Barrick is field trip chairman.

In a new contest sponsored by Compton Gem and Mineral Club, Compton, California, members are asked to submit designs for the cover of the club bulletin, *Rockhounds Call*. Special covers for holidays, seasons, special months, are invited. Prizes will be donation award tickets, redeemable at any club meeting. Grand prize will go to the best cover of all; other winners will be used throughout the year.

"Arizona: Its Scenic Wonders and Mineral Resources" was the title of a film projected for Santa Barbara Mineralogical Society at a meeting in the Santa Barbara Museum of Natural History, Santa Barbara, California.

A two-day trip to the Toltec and Hima-laya turquoise mines near Baker, California, was planned as the February field excursion of Seales Lake Gem and Mineral Society. The mines were first worked by aboriginal Indians; they were rediscovered in 1867. The area abounds in Indian artifacts, and many ancient petroglyphs are to be found.

Santa Fe Gem and Mineral Society installed a display cabinet at the Chamber of Commerce rooms in Santa Fe, New Mexico, to exhibit members' collections for the pleasure of tourists who visit the building.

On their way home from Blue Bird Hill, California, where they collected limonite pseudomorphs of pyriteohedrons, kyanite and garnets, members of Coachella Valley Mineral Society stopped at Coon Hollow and picked up specimens of chalcedony.

Harold Larson demonstrated silversmithing at a recent meeting of Wasatch Gem Society, Salt Lake City, Utah.

R. D. Bradley, who has been associated with the Lapidary Equipment Company of Seattle, Washington, since the business was founded, announces he has purchased the stock of Karl J. Hillquist, former president of the company. Hillquist has retired from active business in the lapidary field. Bradley is the firm's new president.

JADE WINDOW DEDICATED IN NORTH SHORE CHURCH

One of the most impressive examples of the lapidary's art was unveiled when the jade window in North Shore Baptist Church, Chicago, was dedicated in September. The window is the culmination of Collector J. L. Kraft's many years of finding and fashioning American jade.

Twenty colors of jade share the 288 panels. Each slab of flawless material was ground and polished to a thickness of 3 millimeters, then put together like stained glass into a framework 3½ feet wide and 6½ feet high.

From Arizona came the white of the central cross; from California, mottled material and a rusty red jade used in the letters within the cross; from Wyoming and Alaska, various shades of green.

Most of the work was done by Mr. and Mrs. E. A. Williams of Elkhart, Indiana. When Williams became ill last spring, John Grieger of Pasadena, California, carried on the work, which took two years to complete.

A "swap and shop" night was the first event on Colorado Mineral Society's 1953 calendar. Trading material was displayed and a silent auction held.

Thin slices of stone to be used for transparencies or iris are usually too fragile to stand polishing without dopping, yet some of them will not stand the heat of dopping cement. "Try using two-sided tape," suggests Ray Lilling, editor of "The Lapidary Corner" in Minnesota Mineral Club's *Rock Rustler's News*. The tape has adhesive on both sides, he explains. "Cut a piece of flat board a little larger than the stone slab to be polished; then lay strips of the tape on the board and press the slab down flat. This arrangement will stand up under heavy grinding and sanding. The finished piece can be removed by warming or by soaking it in gasoline or lacquer thinner."

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"Specimen or a quarter" is the rule for the monthly rock exchange table of Coachella Valley Mineral Society, Indio, California. The treasury is boosted 25 cents by each forgetful member.

New editor of San Diego Lapidary Society's monthly bulletin, *Shop Notes and News*, is Fairy V. "Tex" Oliver, who assumes editorial duties of Ed Soukup, editor for the past three years.

Southwest Mineralogists members now have an advisory panel to which they can take their mineral and lapidary problems. A. C. Gustafson will assist the faceter, Louis Sears will advise on difficult grinding jobs, and Arthur Rich will identify puzzling mineral and gem specimens.

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Amateur Gem Cutter

By LELANDE QUICK, Editor of The Lapidary Journal

It seems that every one in the country is having trouble with wet sanding all at the same time for we have received calls for help every day for the last five days. We wonder at the extreme naivete of some of the correspondents. One of them, for example, writes that he spent \$58 for a wet sander and when it arrived it was dry. He wrote the manufacturer and was told that he was supposed to supply the wetting equipment and to keep the cloth wet himself. He then wet the cloth and complains that it only stayed wet ten minutes. Well—he’s making progress.

Of course wet sanders do not arrive wet. The purchaser has to supply some form of nozzle or spray arrangement to keep his sander wet. In that regard Necessity becomes Edison’s Grandmother and it takes little ingenuity to devise a method of applying a fine spray to the sanding cloth. The old timers will remember how the old time Chinaman would iron shirts—after blowing a fine spray on the shirt from a can of water. This method was outlawed because the Chinaman too often had germs that went along with the spray. Today the easiest solution is the salvage of one of those plastic containers of the squeeze type variety, or the purchase of a small syringe in a drug store, such as an ear syringe etc. In a pinch just borrow the boy’s water pistol. You can take it from there.

Questions come in about the kind of glue to use that will be waterproof. Any hardware store worthy of being in business has the answer to that question. One good suggestion is to visit an auto parts store and secure a can of gray trim cement, the kind with which rubber gasket is applied in auto body work. If you wish to make your own wet sanders you can do so for the expenditure of less than two dollars.

After picking up the can of trim cement, visit a dry goods store and get a couple of yards of unbleached muslin, fairly light in weight. Stop by the lumber yard and have them saw out a piece of plywood about 15 inches by 48 inches in size. With ordinary tacks fasten a 14-inch wide strip of the muslin (torn lengthwise from the piece you bought) to the board. Tack it first across the short end and then the opposite end but do not stretch the material. If you do, the sanding belts will stretch and wrinkle later. Then tack the sides without stretching.

Apply the viscous rubber cement to the cloth first with a small paint brush. Cover an area the size of one sheet of the paper at a time (9”x12”). Then paint the back of the paper thinly with the cement. Allow both to dry to the tacky stage and apply the sheet, being sure the cement extends to the edges. Press down or roll out with a small soft roller. Apply the cement

to the next 12 inches of the cloth and the second sheet of paper and also on top of the first quarter inch of the first sheet. After allowing this to get tacky, press the strip down, overlapping the first. Proceed with the third sheet in like manner and so on. When you have the strips done hang them on the clothesline with spring clothes pins to dry.

When all the strips are dry take a steel straight edge and a sharp knife, rule off strips to desired width and cut. Similarly, make other pieces of one sheet of paper, backed by a larger piece of cloth, for hollow head sanders. Allow all strips to dry thoroughly so they will not stick to the surface of the next strip.

In applying the strips to your drum sander, be sure that the over-lap runs with you and not against the work. Fill the tray with about a half inch of water and dip water from the tray to the belt sander with a small paint brush at the necessary intervals. As you sand, a tell-tale streak of gray warns you to shift to another area of the belt or to swipe again with the brush. This necessity for intermittent re-wetting tends to prevent over-ambitious pressure with consequent generation of heat that spoils so many gems.

We are indebted to Hugh Leiper of Austin, Texas, for these suggestions. Mr. Leiper suggests that paper and not cloth be used. Wet sanding paper is for sale in all size grits at all auto supply stores.

The merits of wet sanding have been discussed in this column on several occasions. Those who have tried it are certain they will never return to dry sanding for the results are too good. The freedom from heating, with the resulting ugly white spots that show up on delicate material is just one good reason. The superior polish attainable is the best reason.

Another correspondent writes “if you can’t tell me how to keep the sander wet then tell me where I can buy a blower to keep the dust away from my nose.” If you are near a large community where they have a vacuum cleaner repair shop just pay them a visit and do a little bargaining for the blower from an old vacuum cleaner. This can be rigged so that the dust can be carried out the window nearest to your lapidary bench.

If you do not wish to make your own wet sanding paper you can buy Behr-Manning *Speedwet* paper—also at auto supply stores. Then visit a laboratory supply house and get two laboratory pint size beakers with some glass tubing. Have two tubes come from near the bottom of the beaker through a large cork. One of these should be bent in a gas flame. Have about four teaspoons of grit in the bottom of the jar. When the paper is new merely blow through one tube and the water comes out the other. Just like the old Chinaman wetting your shirt before ironing it. As the paper wears you agitate the beaker before blowing and then blow water and new grit to the polishing surface.

We would be happy to receive any new suggestions on the wet sanding procedure and any ideas that will take the pain out of lapidary work.

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Mines and Mining

Albuquerque, New Mexico . . .

A uranium permit covering 7000 acres of the Zuni Indian reservation has been granted to Walter Graves of Aztec. Under it, Graves has the right to conduct exploration and testing and is given an option to take a lease if uranium is found. Similar permits have been issued on other Indian reservations, but this is the first authorized on Zuni lands. Grant's permit covers the northeast corner of the reservation, about 30 miles south of Gallup.—*New Mexican*.

Ely, Nevada . . .

In spite of underground water troubles, Kennecott Copper Corporation is holding to its mid-1954 deadline for completion of the Deep Ruth Project in White Pine County, Nevada. J. C. Kinnear, Jr., general manager of Kennecott's Nevada Mines Division, announced that the goal for finishing the \$14,000,000 project still is July, 1954. Most of the needed surface installations were completed in 1952. When development is completed, the Deep Ruth will mine a 25,000,000-ton ore body by block caving methods.—*Pioche Record*.

Hite, Utah . . .

Negotiations are continuing with Vanadium Corporation of America for establishment of a uranium mill near Hite. Sheldon P. Wimpfen, head of the Grand Junction, Colorado, office of the Atomic Energy Commission, said he had hopes construction of the mill might be started this year. Vanadium Corporation and the AEC have not yet reached agreement on what the government should pay for the uranium salts or oxides produced by the mill. Both agree there is sufficient copper-uranium ore in the area to merit construction of the processing facility.—*Salt Lake Tribune*.

Miami, Arizona . . .

An agreement to produce 230,000,000 pounds of copper from low-grade Arizona ore has been signed by the government with the Miami Copper Company. The copper is to be produced from an undeveloped ore body extending out from an underground deposit of higher grade ore in the Globe-Miami mining district. The company has been working the deposit since 1906.—*Arizona Republic*.

Moab, Utah . . .

Uncle Sam is grubstaking 326 prospectors in an \$18,927,000 search for minerals needed for defense. The Defense Minerals Exploration Administration has signed contracts promising to put up \$11,316,500 of the money needed in the nationwide quest for scarce minerals. The government's share, determined by the urgency of the need for the metal, is from 50 to 90 percent of the total cost of the work. Most of the prospecting is being done in the Rocky Mountain area, where 208 companies are participating in a \$13,713,000 search for strategic ore.—*Moab Times-Independent*.

Blanding, Utah . . .

Thirty-eight one-year permits for exploration for uranium ores in Capitol Reef National Monument were granted by the Atomic Energy Commission in February. Prospecting under these permits is authorized anywhere in the monument area excepting certain tracts held by the State of Utah and by Wayne County and the 80-acre Oyler Tunnel tract. The monument was opened to uranium prospecting under a joint agreement between the AEC and the National Park Service.—*Dove Creek Press*.

Benson, Arizona . . .

Coronado Copper and Zinc Company, which closed its old Republic shaft several months ago at its Johnson Camp properties 30 miles northeast of Benson, is now operating from a new shaft with drifts at the 500-, 600-, and 700-foot levels. Fred E. Gray, superintendent, reports 25 to 28 cars of copper and zinc concentrates are being shipped monthly, with a total average output of 1,750 tons.—*Arizona Republic*.

Vernal, Utah . . .

A process to extract oil from two billion barrels of native rock asphaltum west of Vernal has been perfected by a Pacific Coast firm. Barnes Engineering Company of Los Angeles, which controls all the claims covering the main deposits in the bitumen reserve, announced its process makes possible profitable exploitation of the oil-bearing material. Pilot plant experimentation indicates as much as one barrel of oil might be obtained for every cubic yard of sand processed.—*Vernal Express*.

Salt Lake City, Utah . . .

Silver King Coalition Mines and Park-Utah Consolidated Mines Company have announced plans to merge. James Ivers, president of Silver King Coalition, and Lawrence Fox, president of Park-Utah, said each board has tentatively agreed consolidation would be achieved by forming a new corporation, capitalized at 6,000,000 shares of \$1 par value stock. Present Silver King stockholders would receive 1.25 shares of stock in the new company for each share of Silver-King held; Park-Utah stockholders would receive 1.1 shares per share held. Properties of both companies are in the Park City mine district of Utah. They produce lead, zinc, copper, gold and silver.—*Mining Record*.

Globe, Arizona . . .

Extensive zinc explorations are underway by the Globe-Miami Copper Zinc Corporation at the old Comstock Mine properties north of Globe. Work now in progress consists of deepening the old Irene shaft to 800 feet and construction of drifts to the new ore body previously located by drilling operations. The exploration and development work, due for completion this year, involves an expenditure of \$63,750, of which \$31,875 is being supplied by the government's Defense Minerals Exploration Administration. The Comstock properties, which Globe-Miami acquired last year, consist of patented and unpatented mineral locations in four sections of land northwest of Copper Hill in the Globe mining district.—*Arizona Republic*.

Eureka, Nevada . . .

Encouraged by a \$750,000 government loan, Eureka Corporation has launched a \$3,000,000 program at its Richmond-Eureka mine on Ruby Hill. The 2350-foot, four-compartment Fad shaft has been repaired to the water level, and core drilling has been in progress for several months, with the object of locating ore deposits on or above the 1700-foot level. Ore bodies disclosed several years ago by diamond drilling contain lead-zinc-gold-silver ore. A sudden flow of water early in 1949 flooded the long cross cut advancing toward the main ore bodies. Dewatering operations are underway.—*Humboldt Star*.

Grants, New Mexico . . .

U. S. Gypsum Corporation, which recently bought large holdings of perlite deposits in the Mt. Taylor area, has purchased the Pumice Corporation of America. The latter's pumice works at Grants will be adapted to perlite operations.—*Grants Beacon*.



By RANDALL HENDERSON

IT WAS with regret that I learned this week that my former neighbors in Calexico, California, had decided not to hold their annual historical pageant, *The Desert Cavalcade*, this season.

With the exception of the war years, the Cavalcade has been presented in the border town each spring since 1940—and in my opinion it has been one of the finest community cultural achievements in California, ranking with the *Ramona Pageant* at Hemet.

Although most of the work involved in staging this annual pageant has been given freely and without payroll cost by the people of Calexico and Mexicali, the purchase of costumes and properties has been a heavy financial drain and the pageant never has been profitable.

There was a deficit last year, and this season those who normally underwrite the pageant were reluctant to do so—and so there will be no Desert Cavalcade this April. I sincerely hope that before another year the necessary funds will be forthcoming for a resumption of the Cavalcade program. It was a beautiful pageant, staged in a magnificent manner—the kind of drama that brings tears of pride to your eyes—pride in the courage and vision and faith of those who pioneered this desert country, and pride in the generous contribution of those good Calexico and Mexicali people who worked day and night for weeks with no thought of remunerations to present this historical pageant.

* * *

I hope that before too long the new administration in Washington will get around to the task of bringing our antiquated mining laws up to date.

Much of the federal mining code on the books today was written in 1872. In recent years, selfish interests have found loopholes which are threatening to rob you and me as American citizens of some of the best land in our public domain.

Mining claims, lode and placer, average about 20 acres each, and the filing of a mineral claim entitles the holder to the surface values—timber, water and grass—as well as the underground minerals.

Since sand, gravel, pumice and cinders are classed as minerals, it is easy for an unscrupulous person to go into a U. S. National Forest and make a mineral “discovery” which under a liberal interpretation of mining law will justify the filing of a claim on 20 acres with a \$20,000 stand of fine timber, even though the land may never yield a dollar’s worth of milling ore.

Under the guise of mining claims or mining millsites, many thousands of such claims are being filed every year by persons who have no thought of mining them. They are seeking valuable timber, or water rights, or homesites

—or even locations for highway service stations. By doing \$100 worth of assessment work annually they can hold these claims tax-free indefinitely. Since the burden of proof that the land does not contain sufficient minerals for profitable mining is the obligation of the U. S. Forestry Service, very few claims are contested.

Honest mining men are no less indignant over the filing of phoney mining claims than are conservation-minded Americans who want to see the beauty of the natural landscape given all possible protection.

There are today over 335 million acres of publicly owned land in the United States. About half of it is under the jurisdiction of the U. S. Forest Service. It is the policy of the forestry department to permit the cutting of timber on a sustained yield basis, to protect watersheds and to provide the opportunity for all Americans to enjoy these public lands for camping and hunting and fishing.

But when a phoney mining claim is filed, the forestry service virtually loses control of the land—and in the end you and I are the ones who lose.

* * *

Two of the most avid rockhounds within my acquaintance are Arthur and Louise Eaton of Holtville, California. In former years when *Desert Magazine* was published at El Centro, the Eatons were regular contributors to these pages. Louise once wrote something that I think is worth repeating:

“I’ve been polishing stones today. And I cannot but think how like people are these gems. Some of them appear so rough and colorless one would pass them by without a second glance—but underneath the uninviting surface there is rare hidden beauty. There are other stones that appear so fair without—and yet no amount of cutting and polishing will disclose any real worth.

“And then there are still other stones that you know at once will make perfect jewels. They radiate the beauty that is within them. They resemble humans in whose hearts are love and courage. They are of ineffable worth—life buffs them to a scintillating lustre. If the stones of our desert were to become incarnate, there would be the same variations in character that we now have in the human family—and some of them would be just like you and me.”

* * *

By the time this issue of *Desert* is on the press, early in March, Cyria and I will be rolling on Highway 80 toward the Big Bend National Park in Texas. One of the newest of the national parks, the Big Bend country is said to be one of the most delightful desert areas in the United States. I am planning to write for *Desert Magazine* readers a report on what I find in the Big Bend.

Books of the Southwest

NEW INFORMATION ADDED TO DEATH VALLEY BOOK

There is a saying of the Paiutes that no man should go far in the desert who cannot sleep in the shade of his arrows. Planted head down in the burning sand, the feathered shafts afforded just enough shadow to block the relentlessly staring sun from the Indian's weary eyes.

The Paiutes knew how terrible could be the waterless sand wastes and the smiting heat of Death Valley; the Jayhawkers had to learn — the hard way.

Shadow of the Arrow is the story of Death Valley and of these valiant men and women who crossed it in 1849. Published in 1941, a second edition was issued recently, including much new information and an enlarged appendix.

The author, Dr. Margaret Long, made frequent trips to the Death Valley region during the years 1921 to 1942. She is thoroughly familiar with the nature of the country itself, has personally retraced many of the immigrant trails and has carefully studied the journals of the pioneers. Her book—at once travel sketch and history—brings Death Valley close to the reader not only as a picturesque country but as a region that has challenged the courage and resourcefulness of man for many a decade.

Published by Caxton Printers, Caldwell, Idaho. 345 pages, index, bibliography, halftone illustrations. \$5.00.

BOOK WOULD DIRECT FAMILY GEOLOGY STUDY

Rocks, Rivers and the Changing Earth is a first book about geology, planned and written by Herman and Nina Schneider to help children learn to read in Nature itself the fascinating story of the earth.

The Schneiders have produced a valuable textbook—primarily for the elementary or junior high school pupil but also for the adult who has never formally studied earth science. It will provide many instructive hours for the family who would read aloud the text and together do the simple experiments—then apply the geologic theories to Nature itself on trips to desert, mountains or seashore.

Explanations are always simple and completely logical. Understanding is aided further by examples drawn from everyday life—a toothpaste tube helps

explain the phenomenon of earth movement; geysers are likened to the action of percolating coffee—and by numerous ink sketches.

Published by William R. Scott, New York. 181 pages, index. \$3.00.

Mesquite Tough on Cowboys . . .

Spread of the mesquite tree in the Southwest is jeopardizing the economy of the livestock industry, according to a U. S. Department of Agriculture publication. The 72-page booklet, *The Mesquite Problem on Southern Arizona Ranges*, states that the invasion of the mesquite is reducing the grazing capacity of the range lands. Not only does the tree reduce grazing area, but its thorny branches cause additional wear and tear both to the clothes and to the good temper of the cowboys who have to round up stock in mesquite covered terrain.

Published by U. S. Printing Office, booklet is available from Superintendent of Documents, Washington, D.C., 25 cents.

HOW TO PLANT, CARE FOR YOUR SOUTHWEST GARDEN

"Gardening back home was such an easy chore," remembers Rosalie Doolittle. "One slipped a seed into the ground, nature watered and fed it, and up popped the most beautiful flower imaginable."

Then the Doolittles moved to New Mexico, and Mrs. Doolittle found her home gardening needs had changed. The Southwest soil was different, irrigation was a problem, high winds threatened unprotected plants, and altitude and climate demanded consideration.

Southwest Gardening tells how Mrs. Doolittle solved her gardening problems and how she landscaped and planted the new Doolittle home in Albuquerque. Written in collaboration with Harriet Tiedebohl, it includes information on landscaping, native plants, irrigation, pests and diseases, tools and time savers, shrubs, trees, flowers, fruit and vegetables. A series of plot plans, a glossary of gardening terms and a planting calendar comprise a handy appendix.

Published by the University of New Mexico Press. 204 pages. \$4.50.

Books reviewed on this page are available at
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